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ABSTRACT

The Cooper Foundation Awards for Excellence in Teaching originated in 1981 to recognize and reward classroom teachers who submit innovative ideas and projects judged most likely to improve teaching and learning in the subject areas of economics, fine arts, foreign languages, geography, global studies, mathematics, and science. Each year the Foundation funds 35 $1,000 cash awards in the eligible subject areas. This document presents a compilation of the 35 winning projects submitted by K-12 teachers in 1992 in the eligible subject areas. Thirty-five projects are presented in this compilation. Each project includes an abstract, lesson plan, recommended grade levels, time requirements, activities, hand-outs, and support materials. (LL)

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1992
Cooper Foundation Awards for Excellence in Teaching

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Preface

The Cooper Foundation Awards for Excellence in Teaching originated in 1981 when E. N. Thompson, President of the Cooper Foundation, invited the Nebraska Department of Education to cooperate with the Cooper Foundation in a program to recognize and reward innovative teachers. He proposed that the Cooper Foundation would provide $15,000 to fund fifteen awards to be given to teachers who submitted innovative ideas and projects judged most likely to improve teaching and learning in the areas of economics, history, and written communication. Mr. Thompson's long and varied career had impressed upon him the importance of a good fundamental education in those areas. The Department of Education endorsed the program and committed to publishing and distributing to all schools the winning projects.

Seventy-two projects descriptions were submitted in the first year, and the program has grown steadily since then. Nearly 200 applications are now submitted annually. The Cooper Foundation now funds 35 awards of $1,000 each, and the list of eligible subject areas has expanded to seven. Approximately 400 teachers have been recognized, a recognition that their creativity and industry warrant. Just as importantly, their ideas have influenced practices in classrooms across Nebraska.

Both Mr. Thompson and Commissioner of Education Joe Lutjeharms strongly support this program, believing it places the focus where it needs to be–on classroom teachers. They both urge K-12 classroom teachers in the eligible subject areas to submit their ideas for judging.

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Twainsian Economics

Abstract

Classical literature has many lessons incorporated in its pages as well as just good reading. Mark Twain's *Tom Sawyer* is an ingrained part of seventh grade curriculum in most areas and provides some unique opportunities to teach students the economic concepts of opportunity cost and trade-offs, specialization and division of labor. By using an interdisciplinary approach, this novel can provide many useful examples for the study of economics as well as American literature.

Lesson I

Course/Subject/Grade Level: English 7

Time Required: 1 class period

Economic Concepts:

1. Opportunity cost (all decisions involve weighing the costs against the benefits associated with alternative choices).
2. Trade-offs (the costs and benefits of choosing alternative choices).

Instructional Objective:

The students will define opportunity cost as decisions in which scarce resources, particularly use of time, are used for one purpose rather than another.

Rationale:

Students need to be aware that all decisions concerning their use of time and their material assets are important and result in trade-offs.

Curriculum Infusion:

Tom Sawyer, By Mark Twain, Chapter 2.

Materials:

1. Copies of *Tom Sawyer*
2. Decision making grid

Procedure:

Students will read Chapter 2 of *Tom Sawyer*. This would be most effective if read by capable students orally since there is a lot of conversation. Assign roles to the students or read by paragraphs.

Discuss the economic terms of opportunity costs and trade-offs.

Evaluation:

After completing the reading and the discussion of the economic terms, have the students complete a decision making grid with what they feel each item traded would be worth in time spent whitewashing. (See support material.)

Carole Lashley
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Carol Lashley received her B.A. and M.S.T. degrees from the University of Nebraska-Lincoln. She teaches at District OR I in Palmyra, Nebraska, where she and her husband, Warren, reside. She is active in various civic and religious organizations and is Chairperson of the Board of Trustees of Palmyra.

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Lesson 2

Course/Subject/Grade Level: English 7

Time Required: 1 class period

Economic Concepts:

1. Opportunity cost
2. Trade-offs

Instructional Objectives:

1. The students will be able to exchange ideas in a group setting.
2. Students will be able to make desirable choices when making decisions concerning their use of time/material assets.

Rationale:

1. Students need to be personally involved in making choices.
2. Students need to work with others in arriving at conclusions.

Curriculum Infusion:

1. *Tom Sawyer*, by Mark Twain, Chapter 2.
2. This lesson will immediately follow the previous lesson in which Chapter 2 of *Tom Sawyer* is studied.

Materials:

1. Open-ended narrative of a modern "whitewashing experience"
2. Treasures for exchange (cut pictures of these out of teen magazines such as articles of clothing, jewelry, soft drinks, etc.).
3. Decision making grid.

Procedure:

1. Divide the class into groups of 4 or less. Provide each group with at least 4 items to trade.
2. Give each group the open-ended narrative to share. Have them read this in their group and then proceed to decide the economic benefits of trading their treasures for the privilege of washing the van. They need to encourage participation by all in the group.
3. Each group should complete a decision making grid.

Evaluation:

1. Have groups share their conclusions and review their concepts of opportunity costs and trade-offs.

Follow-up Activities:

1. Students may wish to create a play out of the two scenes - Tom's whitewashing the fence and Darren's washing the red van. This could be done as elaborately or as simply as the class desires. It could be recorded for showing at a future date.
2. Students could make decision-making grids concerning their use of unstructured time in their schedules.

Lesson 3

Course/Subject/Grade Level: English 7

Time Required: 1 class period

Economic Concepts:

1 Productivity
2 Specialization and division of labor

Instructional Objective:

The students will define specialization and division of labor as devices which usually increase labor productivity.

Rationale:

Students need to be aware that when workers specialize, more services can be produced with the same amount of labor.

Curriculum Infusion:

Tom Sawyer, by Mark Twain, Chapter 13

Procedure:

Students will read Chapter 13 of *Tom Sawyer*. This would be most effective if read by capable students orally in the classroom. Discuss the economic terms of specialization and division of labor as they relate to productivity. Relate this to the method by which the boys prepared their camp for Jackson's Island.

The students will define specialization and division of labor as devices which usually increase labor productivity.

Evaluation:

After completing the reading, discuss the method by which the boys used specialization and division of labor in this chapter.

Follow-up Activities:

1. Research the life of Mark Twain and find other examples of economic concepts in his works.
2. Research John Maynard Keynes and his contribution to the study of economic concepts.

Support Material:

"The Glorious Carwasher"

Saturday morning was come, and all the summer world was bright and fresh, and brimming with life. There was a song in every heart; and if the heart was young the music issued at the lips. The lilacs were in bloom and the fragrance of their blossoms filled the air.

Darren appeared on the driveway with his bucket of water and a bundle of rags. He surveyed his Dad's van, and all gladness left him, and a deep melancholy settled down upon his spirit. Life to him seemed hollow, and existence but a burden. Sighing, he put down the bucket and rags and commenced to make a swipe across the side of the door; repeated the operation; did it again; compared the clean swipe with the remainder of the van and sat down on the driveway discouraged. Brandon come skipping out the door with a grocery list. Darren had always thought "running to the store" a hateful task , but then he remembered all the kids there picking up the milk and cereal for their Saturday breakfasts. Darren said, "Say, Brandon, I'll go get the groceries if you'll wash the van."

Brandon shook his head and said, "Can't, Darren, old buddy, Mom told me you'd try to make a trade and she said for me to do my job and let you do your's."

"Oh, don't listen to what Mom said, Brandon, that's the way she always talks. Gimme the list—I won't be gone only a minute. She won't even know."

"I'd better not, Darren. Mom would probably give me a good swat."

"She'd never do that, she might talk big, but talk never hurt, as long as she doesn't cry, Brandon. I'll give you a baseball card."

Brandon began to waver.

"A baseball card, Brandon, and it's a good one."

"My Gosh, that's a neat one, but I don't know—"

"And besides, if you will, I'll let you see the stitches in my left foot."

Brandon was only human—this attraction was too much for him. He put down the list, took the baseball card, and bent over the foot with absorbing interest while the bandage was being unwound. In another moment he was flying down the street with his list and a tingling rear, Darren was washing the van with vigor, and Mom was retiring from the field with a slipper in her had and triumph in her eye.

But Darren's energy did not last. He began to think of the fun he had planned for this day, and his sorrows multiplied. Soon the free boys would come tripping along on all sorts of delicious expeditions and they would make a world of fun of him for having to work—the very thought of it burnt him like fire. He got out his worldly wealth and examined it-bits of toys, baseball cards, and trash; enough to buy an exchange of work, maybe, but not half enough to buy so much as half an hour of pure freedom. So he returned to his task, and gave up the idea of trying to buy the boys. At this dark and hopeless moment an inspiration burst upon him! Nothing less than a great, magnificent inspiration.

Instructions:

1. Now, in your groups using your treasures for exchange, complete the story, making the trades with Darren for the privilege of washing the van.
2. Draw up a group decision-making grid balancing the time for washing equivalent to the value of your treasures.

Learning Basic Economics Concepts

Abstract

Teaching economics to middle school students is of vital importance in today's world. The purpose of these lessons is to develop an understanding of basic economic concepts. In these lessons, we will learn about:

1. Economic wants
2. Scarcity
3. Opportunity costs
4. Productive resources
5. Specialization
6. Interdependence
7. Income distribution

All of these lessons could be used at the middle school grade level. Two of these lessons utilize cooperative learning which I feel is extremely beneficial to this grade level. Also, all of these activities can be adapted to all levels of learning.

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LaVista, Nebraska

Kerry Lampe has taught in Nebraska's public school system for twelve years. Lampe is currently teaching at LaVista Junior High School where he teaches various levels of mathematics.

Kerry is currently the Math Counts facilitator at the building and coaches girls' basketball. Also, he is working on a degree in educational administration.

Project One

Title: The Scarcity of Recreational Time

Recommended Grade Level: Seventh through ninth grade

Time Required: Two class periods

Major Concepts:

Economic wants
Scarcity
Opportunity cost

Related Concept:

Productive resources

Instructional objectives:

Students will

- List at least three recreational wants.
- Design a decision-making grid for choosing a recreational activity.
- Define opportunity cost and give an example which pertains to recreational activities.

Rationale:

Students should be aware that scarcity of resources necessitates choice at both the personal and societal levels. Also, all decisions involve opportunity costs; weighing these costs and the benefits associated with alternative choices constitutes effective economic decision-making.

Suggested Use:

Most suitable in economics and mathematics where problem solving involves making decision grids.

Materials:

Classroom set of copies of Handouts 1-1 and 1-2. Several copies of local newspapers, magazines, and phone books.

Procedure:

1. Start a discussion in which you ask students the following questions.
   A. What is time?
   B. Why is time so important in our daily life?
   C. How do you spend your recreational time?
   D. How long do you spend on this recreational activity?
   E. Why don't you spend more time at this activity?

   List their responses on the chalkboard. Make sure that students understand that they are describing a situation of scarcity. In this case, the scarce item is time.

2. Pass out copies of local newspapers, magazines, and phone books to the students. Have each student list at least five recreational activities or recreational businesses in the community. For each one, find out the costs per hour or per event that each of these recreational activities would cost.

   After the students have completed this activity, ask the following questions:

   A. What was the most expensive recreational business or activity?
   B. What was the least expensive recreational business or activity?
   C. Why would one activity cost more than another?
   D. Were some recreational businesses or activities free?

   At this point, make sure students understand that the more limited a recreational resource becomes, the more it costs to use this resource.

3. Pass out a copy of Handout 1-1 to each student. Have them read the directions and then answer any questions that they might have. After they complete the activity, ask the following questions:

   A. Look at your top five recreational activities. If you are able to fit only two of these activities into your free time, what is the opportunity cost of your choice?
   B. Why were some of the activities free and others cost money?
   C. Explain why the activities you checked as "free" are not really free?
   D. Were activities that required more time also more costly? Why?
   E. Would the use of productive resources cause certain recreational activities to cost more? Explain your answer.

4. Give a copy of Handout 1-2 to each student. Explain to the students how to fill out the decision-making grid.

After the students have completed the chart, put the following questions on the overhead and discuss.

A. Which activity or activities meet our goals?
B. What other criteria could we add to this chart?
C. Why is this a good way to solve problems?

Evaluation:

1. Assess the quality of student oral and written responses.
2. Show the short film by Stephen Tolkin called "The Price of Life." Have students write an essay on the film in which they identify the following items:
   A. Economic wants
   B. Scarcity
   C. Opportunity cost

Handout 1-1 Recreational Time

Directions: Read each pair of activities and circle the one that you would rather do as a recreational activity. Put down the time required to complete the activity and identify if it is free or costs money. If it costs money, put down how much. In the last column rank the items from 1 to 10 with 1 being the most enjoyable.

Activities	Time	Free	Cost	Ranking
Play tennis at a club or play tennis at the local park.				
Watch T.V. or go to a movie				
Go to a Nebraska Football game or go to the local junior high game.				
Play Nintendo at home or go to a video arcade.				
Go golfing at Applewood or go Golfing at Elmwood Park.				
Bicycle around your neighborhood or skateboard around your neighborhood.				
Go swimming at a city pool or go swimming in the Missouri River.				
Collect cans for recycling or sew.				
Lift weights at Gold's gym or lift weights at home.				
Attend a rock concert or listen to your favorite disc.				

Handout 1-2 A Decision-Making Grid for Choosing a Recreational Activity.

Directions: Here is a list of recreational activities and the goals we would like them to meet. For each activity put an X in the column if the activity satisfies the given criteria.

Activity	Participator	Physical	Outdoor	Cheap	Fun
Playing basketball					
Jogging					
Attending a rock concert					
Playing tennis					
Watching T.V.					
Swimming					
Bowling					
Reading a book					
Playing Nintendo					
Building model airplanes					
Collecting Stamps					
Skateboarding					

Project Two

Title: The Utilization of Specialization in Building Sugar Cube Houses.

Subject: Economics

Recommended Grade Level: Seventh through ninth grade

Time required: Two Class periods

Major concepts:

Productive Resources
Specialization

Related Concepts:

Efficiency
Productivity

Instructional Objectives:

Students will:

* Identify at least three examples of the following productive resources: Human resources, natural resources, and capital goods.
* Solve one problem of the following nature: Output/Input = Productivity Ratio.
* Explain the concept of division of labor.

Rationale:

In school, students will become more efficient and productive if they understand that productivity refers to a ratio of output produced per unit of input over some time period and that specialization and division of labor usually increases labor productivity.

Suggested use:

This lesson can be used in any course to which the topic of specialization and productivity is relevant.

Materials:

One copy of Handout 2-1 and 2-2 for each student. One copy of Handout 2-2 for each group. A large supply of sugar cubes, popsicle sticks, glue, construction paper, rulers, compasses, water color paint sets, pencils, and calculators.

Procedure:

1. Put 10 math problems of various difficulties on the chalkboard. Ask the students the following questions:

   A. What would be the most productive and efficient way to solve these math problems?
   B. How could technology help us complete this task?
   C. Who should do each problem?

   Explain to students that assigning one person to the completion of one phase of an operation is called specialization. In the next couple of days, you will learn more about this concept.

2. Tell each student that they now are going into the construction business of building sugar cube houses. Pass out Handout 2-1 and 2-2 to each student and read the instructions to them. Answer any questions that the students might have concerning this activity. The following two items should be noted:

   A. It may be a good idea to work an example of the production and expense record for the students.
   B. Review the production steps in making the sugar cube houses. Those being:
      1. A house design must be made.
      2. Productive resources should be selected and bought.
      3. The house should be built.
      4. The production and expense records should be filled out.

   At most, students may have completed two houses. Save all of the students' constructions.

3. During the next class period explain to the students that they are going to repeat yesterday's activity but they will be working in groups with each construction worker performing a specific task. At this time, divide the class into teams of four (some teams may have a fifth worker). Each student will perform one of the following jobs:

   1. Foreman
      The foreman's job requires the following skills: keeping records, ordering materials, and helping any worker who may need help.
   2. Bricklayer
      The Bricklayer's job is to lay sugar cubes down. In essence to build the house.
   3. Mortar/roofer worker
      This worker should glue the sugar cubes as they are being built and also shingle the roof.
   4. Painter
      This worker's job is to paint the house when the others are done.

   Each team must choose from their group one of their houses from the previous day and construct that particular house for the team. The social skill you will be working on is how to share ideas in a group. Pass out Handout 2-2 and have the class begin.

4. At the completion of this activity, ask the students the following questions:

   A. Of your productive resources, which items could be classified as:
      1. land
      2. labor
      3. capital

   B. Why did some productive resources cost more than other resources?

   C. On the first day of this activity, how would you describe the quality and quantity of houses?

   D. Were the houses of more equal quality under the division of labor?

   E. When working with your team were average costs lower? Why?

   F. Were some jobs harder than others under specialized production? Why?

   G. What are some businesses which use specialization?

Evaluation:

Assess the class participation of students, their answers to questions, and their work on the handouts and as team members.

Handout 2-1 Sugar Cube House Construction

Today you are going into the construction business by building sugar cube houses. your ultimate objective is to produce as many houses as you can in one class period. As a construction worker, you should realize that there are certain building codes that you should meet. Those being:

1. Each house must have at least five sugar cubes in length, five sugar cubes in width, and five sugar cubes in height. They all must be glued together.

2. Each house must have at least five popsicle roofing pieces. They must be glued to the sugar cubes.

3. Each house must be painted.

4. Each construction worker must also submit their expense records to the city planner (teacher).

Here is a list of the productive resources that you can use to build your house and their cost.

1. one sugar cube $1.00
2. one popsicle stick $5.00
3. glue $10.00 per day
4. Construction paper (lot) $25.00
5. ruler $2.00 per day
6. compass $2.00 per day
7. pencil $2.00 per day
8. calculator $10.00 per day
9. water colors $10.00 per day
10. paint brush $2.00 per day
11. construction worker $1.00 per day

Handout 2-2 Expense record for house

Construction worker(s):

Name of Company:

Date:

	Cost of Resources				
# of houses completed	Land	Labor	Capital	Total Expenses	Average Cost

REMINDER: Your house(s) must meet the building code. Penalty for noncompliance is the demolition of your house.

Project Three

Title: What People Earn

Subject: Economics

Recommended Grade Level: Seventh through ninth grade

Time required: Two class periods

Major concept:
Income Distribution

Related Concept:
Opportunity cost
Economic incentives
Interdependence

Instructional Objectives:

Students will:
- Define the four basic categories of income and give an example for each category.
- Interview one working person and ask them to list and rank the reasons why they chose the occupation that they did.
- Analyze given data on personal income state by state to determine why significant changes exist state by state.

Rationale:
Students should be aware that people earn income by selling productive resources to firms.

Suggested use:
This lesson can be used in any course to which the topic of income distribution is relevant.

Materials:
Several sets of index cards containing the following information on each card:

1. Picture of the person
2. Occupation of the person
3. City and state the person works in
4. Income the person earns for one year.

A large chart which shows income - state by state plus Handouts 3-1 and 3-2. All information can be found in Sunday's *World-Herald*, June 23, 1991 issue of ***Parade*** pages 4-8.

Procedure:

1. Tell the students that people work so that they can have an income to buy economic goods and services. Also, a person wants his or her work to be enjoyable. The opportunity cost of work is the recreational time lost. Most people try to maintain a balance between work and play. Ask the students the following question. What type of work would you like to do? List their responses on an overhead. Try to point out the concept of specialization. Tell the class that today we are going to learn about income distribution.

2. Assign students to groups of four. Some groups may have five people. Pass out Handout 3-1 to each group. Show the class the chart entitled: Income - State by State. Have each group complete the handout. After each group has completed the handout, discuss their answers in a large group discussion.

3. Now give each group a set of job cards and Handout 3-2. Have each group complete the handout. After each group has completed the handout, discuss their answers in a large group discussion.

Evaluation:

1. Assess quality of student written and oral responses.

Handout 3-1 What People Earn

Group Members:

1. What is the title of the chart?
2. What is the purpose of this chart?
3. What information is presented in this chart?
4. What questions do you have about this chart?
5. What conclusions can be made from the data on this chart?

Handout 3-2 What People Earn

Directions: Follow these steps:

1. Arrange the job cards in order from the highest paying job to the lowest paying job.
2. Complete the chart.
3. Answer the questions as a group.
4. Report your findings to the class at the completion of this activity.

Job Title	Income	Occupation	City	State	Skills Needed for Job

Questions:

1. What was the highest paying job?
2. What was the lowest paying job?
3. What was the mean salary of all jobs?
4. What was the median salary of all jobs
5. What was the mode salary of all jobs?
6. What was the range of the salaries?
7. Why did some people have a large income while others had a very small income?
8. What skills did people with large incomes possess?
9. What skills did people with small incomes possess?
10. What area of the country had the highest paying workers? Why?
11. What area of the country had the lowest paying workers? Why?
12. How did minorities' incomes compare to the rest of the workers?
13. What types of jobs did minority workers have?
14. Explain how each worker has an interdependence with other workers?
15. From these job cards, find one occupation in which you are interested. List at least three reasons why you think this job would be satisfying.

Bubble Gum Bulletin Boards

Abstract

A healthy trend in education is to help students become more active learners. One of the methods for accomplishing this is through cooperative learning processes. Another is through the information power approach in media centers. Yet another is through hands-on activities in conjunction with reading, writing or research. The purpose of this particular plan is to use all of these approaches together to reinforce certain economic concepts previously taught in class. The key in any reinforcing activity is to maintain student interest. The drudgery of rote learning will be avoided by using in a creative way a concept or material product that the student is already familiar with in a concrete way. It should be a concept or product that is of importance to the student at a certain age level. For my 8th graders, that product has to be chewing gum! My 8th grade geography students will explore all the economic ramifications of chewing gum independently, as a group, using all the methods cited above. They will then create a product or display that will enable them to teach others what they have learned.

Course/Subject/Grade Level

Suitable for grades 7-9. This can be used in any junior high school economics class, or any class using economics concepts on a regular basis. I am using this in a geography class to enhance both geography concepts and economic terminology.

Time Required

Approximately 4 class periods; keep in mind that 9th graders can work much faster than 7th graders. Also note that some information may have to be sent for and will arrive in the mail. So, to accommodate such delivery, you may want to have this activity spaced out over a period of weeks.

Economic concepts:

1. Factors of production: Resources, Labor, Capital, Management.
2. Economic interdependence.
3. Externalities
4. Price determination/supply and demand
5. Consumer Price Index and other economic measurement
6. Profit
7. Opportunity cost
8. Decision grids.
9. Scarcity
10. Market Profiles
11. Consumers and Producers

Other Concepts:

Geography:

1. Human/environmental interaction
2. Movement
3. Place
4. Location
5. International trade

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Ralston Middle School
Ralston, Nebraska

Neal Hoesing is a University of Nebraska graduate, with a M.A. Degree in Secondary Education. He has taught in all of the Social Sciences fields in various assignments at Ralston Middle School and Ralston High School over the last 17 years. He is currently teaching 8th Graders in a recently introduced course called Geographic Studies. He applauds the trend toward more geography in secondary education and wishes people would get the same message about economics education. Both are extremely important and more relevant today than ever before. Neal is often involved in community/governmental affairs outside the school setting. He corresponds frequently with the Nebraska Council on Economic Education.

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Propaganda techniques

History

Instructional Objectives:

In groups of 4, students will follow itemized procedures. They will research designated topics and create a visual demonstration in bulletin-board type format. Students will use cooperative learning procedures, brain storming techniques and self-evaluation skills. The latter means that each student will keep a log of his or her contributions and that log will be verified by each member of the group. Each student will carry out assigned tasks as determined within the group. The students as a group will consult with the media center specialist at several points during their project. the group will write up a demonstration narrative and one student (or more) will deliver that narrative to the class.*

*It would be presumptuous to attempt to outline or describe adequately Cooperative Learning or Information Power in this context. I recommend that anyone not really familiar with Cooperative Learning take a course in that area, first. Information Power may be less accessible to teachers. I will provide a broad description here:

Information Power refers to a change in role for the media specialist in your school. It also calls for a change in relationship between the media-specialist on one hand, and the students and classroom teacher on the other. It calls for the student to actively search out information through a variety of media with the collaboration and support of the media specialist. Thus, the media specialist is no longer a "guard", but an interested participant involved in the process as a specialist in training students how to locate information to reach class objectives. This requires preplanning by the teacher with the media specialist. Because students are learning a research process, in some cases the media specialist may even be involved in the grading of students' performance in some areas. The goal of Information Power is to provide the student with competence and experience in using all sources of media to find required information in the context of class activities or assignments.

Teacher Procedure:

1. Follow the standard cooperative learning lesson plan, assigning the social skill you think is most appropriate for this lesson, or for your students. Then basically follow that standard procedure for teachers in cooperative learning activities, giving complete directions at the beginning and then helping only when absolutely necessary. Remember, if you are using the Information Power approach with your media specialist, it will be necessary and appropriate for the students to seek help from that person. For students' instructions, see the written forms below.

2. Social Skill: If you are familiar with Cooperative Learning, you know that assigning and processing a specific social skill is necessary. Since there are multiple sessions in this unit, I recommend the use of two social skills:

   a. Using "please" and "thank you" conventions in communication with the media specialist and with any other sources of information outside the school, such as writing to a business or outside agency.
   b. Since we would be using both brainstorming and decision grid activities, responding positively and non-judgmentally to the ideas would seem highly appropriate.

   Of course, the classroom teacher may for various reasons want to emphasize different social skills.

3. In the beginning you will give the messenger from each group that group's assignment. See the assignment list cards below.

   Evaluation: Teacher determined. But I recommend that the evaluation include:

   Extent of research effort and time spent on task and degree of cooperation shown with media specialists and group members.

   Student evaluation of personal performance as verified by other members of group.

   Display quality and quality and completeness of verbal description.

Possible Glitches:

You may not want to do this on sequential class days. Some of the information may take time to get; students may have to send for information in some cases. Media specialists may have to help students decide when a reasonable effort has been made or what substitutions can be made. Note that you as teacher are not expected to provide materials. How can we teach students about economic decision making if we always provide them with everything?

Topic Assignments

Group 1: Gum Production: Find information and create a display about the following:

a. Identify the source or location of base material for chewing gum.
b. Describe the manufacturing process in step-by-step detail.
c. Identify the number of times gum base moves from location to location in the production process. How far did it travel before the material finally reached the consumer in chewing gum form?

Group 2: Price of Chewing Gum. Research the price of chewing gum from some time in the 1950's to today.

a. compare the price of gum with that of the Consumer Price Index for those years.
b. make a line graph comparing those price changes.

Group 3: Research the profit on a certain brand of chewing gum. Break down the cost of the raw material, production and packaging, distribution and advertising. If you can, determine the cost of labor and capital involved. How many people might be involved in producing gum for one company or brand name?

a. Show all of this appropriately in bulletin board form.

Group 4: Research the history of gum production and use. Quantify the amount produced today and the number of people who purchase gum on a regular basis. List varieties and flavors.

a. List the flavoring used in chewing gum when it was first used. Then compare with the flavors available today. Add in the sweeteners, enhancers, preservatives and other chemicals used today. Identify each by place of origin.

Group 5: Externalities: Assess the environmental impact of gum production and use.

a. List all the good and all the bad effects of chewing gum use.
b. Create a decision grid to determine how (if at all) chewing gum should be regulated in a school

Group 6: Propaganda Techniques and Advertising: Research and provide examples of various common propaganda techniques.

a. Identify propaganda techniques used in promoting chewing gum use.
b. Evaluate: Is the technique intended to increase demand? Or increase market share of a certain brand? Or promote brand name recognition? Or introduce a new flavor? What audience is each ad aimed at? Use clippings from magazines or videotape ads for added effect. What seemed to be the most common form of ad?
c. Use demand curves to show how advertising might change demand.

Group 7: The Gum Market:

a. List the unique attributes of various types of gum. Try to explain demand in terms of the qualities or benefits which appear to derive from the use of chewing gum.
b. Research and draw up a market profile of a "typical" gum chewer. What important facts can we find out about the characteristics of this consumer? Your group's questions are so important you may be called upon to demonstrate before any of the others!

Student Direction Form

1. Write the Social Skill you have been assigned here:

2. Quickly nominate and choose persons responsible for the following roles: You may write names after roles.

   a. Messenger
   b. Information Reader/Recorder
   c. Spokesperson

   You will have to divide tasks further when you get to the display stage. You are all researchers.

3. Send your messenger to the teacher to get the topic assignment.

4. Have reader read assignment.

5. Go to media center. Read assignment to media specialist. Remember your social skill when communicating with the media specialist.

6. Cooperate with media specialist in brief brainstorming session to determine where to find information. Recorder writes this down!

7. Fan out and work singly or in pairs to find information. When you find something, report to recorder who will write everything down. If you have to send for information, be sure recorder gets all addresses. Assign members to write various companies or institutions for information. Verify with recorder when you have contacted a source.

8. When "enough" facts have been found, have another brainstorming session to determine the best approach to use in creating your display. Use a decision grid to determine the best approach. Then break down a list of tasks and assign to members. Make a list of materials needed and decide who will provide.

9. Complete display.

10. Write up speech to accompany display. Help spokesperson review speech.

11. List below your contributions to the group. Verify contributions of other members of the group. Do not sign if you do not agree.

    What I did:

    Verified by:

    Did you successfully practice your social skill?
    Comments:

Mrs. O's Employer/ Employee System

Grade Level: K-6

Abstract

Mrs. O's Employer/Employee System serves both as a first grade economics curriculum and, more importantly, as a powerful classroom management strategy. The program utilizes a simple economic model to reward students for quality academic work. Students get "paid" for completing required assignments, earn "overtime" for extra work, and receive "bonuses" for good scores on spelling tests. In addition, students pay "rent" and "food" expenses to the teacher for providing a work place and Friday afternoon snacks. Students opt whether to spend weekly earnings on items from a "Treasure Box" of goodies, or to save their income in a "savings account." Now in its third year, the program has dramatically improved student behavior and has received tremendous parental support.

Program Description

When introducing this program to the children, I lead off with a lesson on elementary economics. The class considers the types of jobs people hold, why they have them, and how they manage their earnings. We discuss how their parents need money to provide them with a place to live, food to eat, and clothes to wear—not to mention toys and entertainment.

I then present Mrs. O's Employer/Employee System. The students get paid "credits" for their work, and the boss (myself, of course) has final say as to whether the work deserves credit. Students can earn up to five credits daily for completing expected tasks. (See supporting materials) Additionally, they can earn extra credits for achieving a 100% on the weekly spelling test or by doing additional work, which we call "overtime." As the employer, I am responsible for providing a work place and materials to use for which they pay a "rent" of five credits per week. In addition, students pay three credits weekly for the food I furnish: juice and cookies every Friday afternoon.

At the end of the week, we calculate the income earned by each child, and deduct the rent and food expenses. Any surplus credits go into their savings account, and students are free to manage their own funds. They may choose to save their credits, or use them to buy something from the "Treasure Box," which contains a variety of little toys, special pencils, pads, paper, books, certificates redeemable for an ice cream cone in the lunch room, etc. The more desirable items have higher price tags in order to encourage students to save credits towards major purchases.

To manage the "business," I use a simple system designed to aid me in tracking "productivity," and also to provide the students with clear feedback on their efforts. Every student gets a folder in which they place completed assignments. A chart attached to the folder records daily earnings and a savings account balance; it also reminds students about rent and food expenses. (See supporting material) As I correct assignments, I indicate the credits earned each day. The savings account balance gets updated on Fridays after all transactions have been completed.

Mrs. Melba Osborn
Brownell-Talbot
Omaha, Nebraska

A native New Yorker, Melba Osborn attended Boston College for three years, then completed her degree at the University of Nebraska-Lincoln in 1963. She is a mother of two and has been teaching for twenty-eight years. Melba has taken graduate courses at Midland Lutheran College, Kearney State and University of Nebraska-Lincoln, and has presented several workshops on "Center Oriented Teaching."

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Results

Mrs. O's Employer/Employee System has been a smashing success from its inception. As the program reached its second week, some parents began contributing items to the Treasure Box because their children seemed so excited about working for "the box." Not one parent complained. In fact, many commented how it seemed to provide just the right motivation for the child.

Some children became so enthralled with their savings account that they kept rolling over their credit from week to week and amassing a fortune! At the end of every quarter, I asked them to spend their credits so that the new quarter would be a fresh start for each child. To help drain these large accounts, parents were wonderful about contributing big ticket items, such as stuffed animals that we valued at 30 credits.

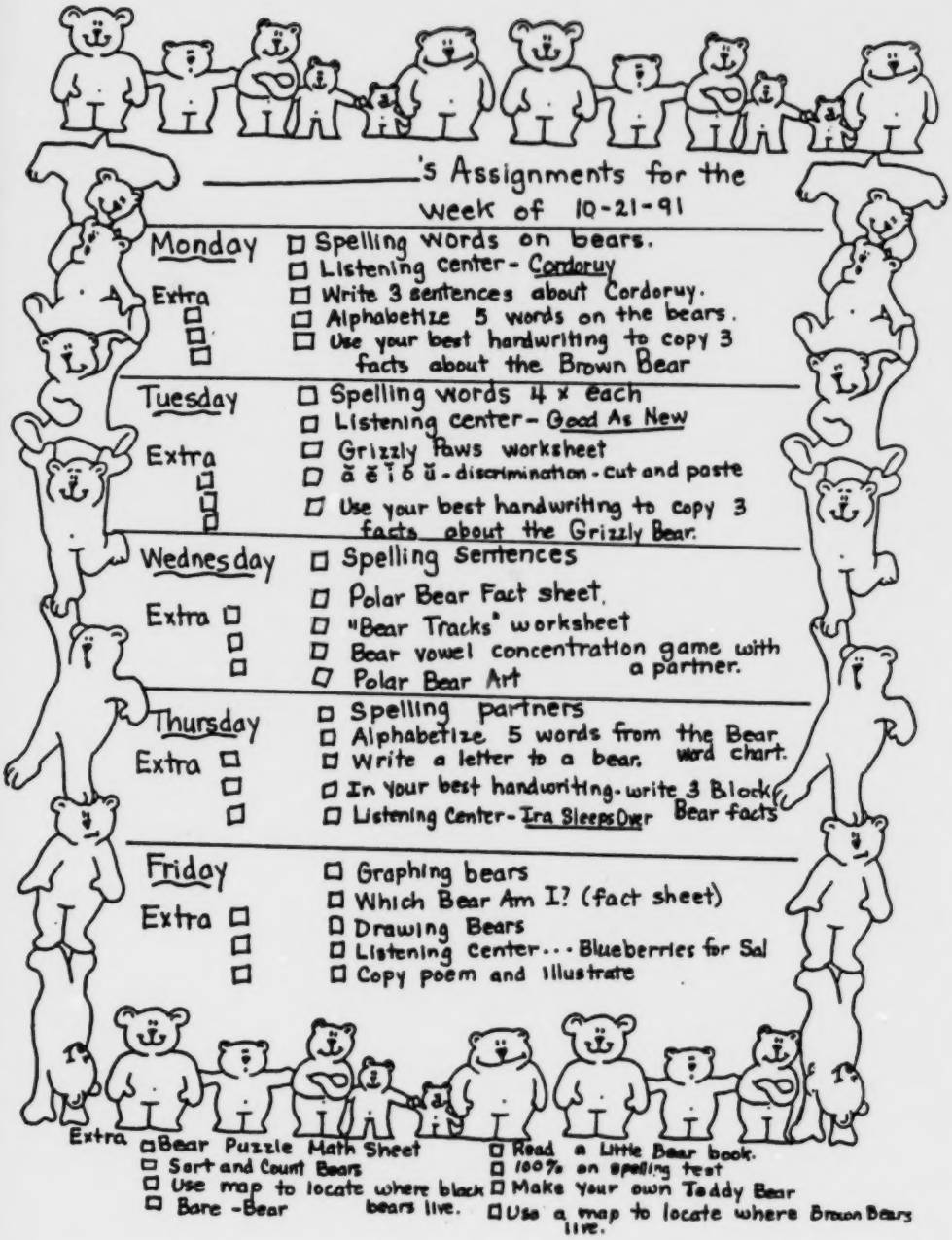
The Treasure Box overflows as we begin our third year of the program. Parents of previous students continue to collect and donate trinkets and toys. My class had a special introduction to the system this year, as they witnessed last year's students turn in **summer assignments** for a final trip to the Treasure Box.

Two other teachers have implemented the system in their first and second grade classrooms. Both adapted the program to meet the needs of their groups, and both have been pleased with the results.

Program Benefits

The wage-based reward system serves as a curriculum component in itself, allowing students to learn experientially how our economic system works. It teaches about the concept of expenses and savings, and illustrates the usefulness of addition and subtraction in the real world. More importantly, the system provides powerful incentive to do quality work. Students became more motivated, and therefore learn more. Finally, when children focus their energy on academic goals in such a positive classroom environment, behavior problems drop significantly. The program thus allows me to spend more time teaching and less time reacting to inappropriate behavior. The class virtually runs itself!

Some children became so enthralled with their savings account that they kept rolling over their credit from week to week and amassing a fortune!



_____'s Assignments for the week of 10-21-91

Monday
- ☐ Spelling words on bears.
- ☐ Listening center - Corduroy
- ☐ Write 3 sentences about Corduroy.
- ☐ Alphabetize 5 words on the bears.
- ☐ Use your best handwriting to copy 3 facts about the Brown Bear

Extra ☐ ☐ ☐

Tuesday
- ☐ Spelling words 4 x each
- ☐ Listening center - Good As New
- ☐ Grizzly Paws worksheet
- ☐ ă ĕ ĭ ŏ ŭ - discrimination - cut and paste
- ☐ Use your best handwriting to copy 3 facts about the Grizzly Bear.

Extra ☐ ☐ ☐

Wednesday
- ☐ Spelling Sentences
- ☐ Polar Bear Fact sheet.
- ☐ "Bear Tracks" worksheet
- ☐ Bear vowel concentration game with a partner.
- ☐ Polar Bear Art

Extra ☐ ☐ ☐

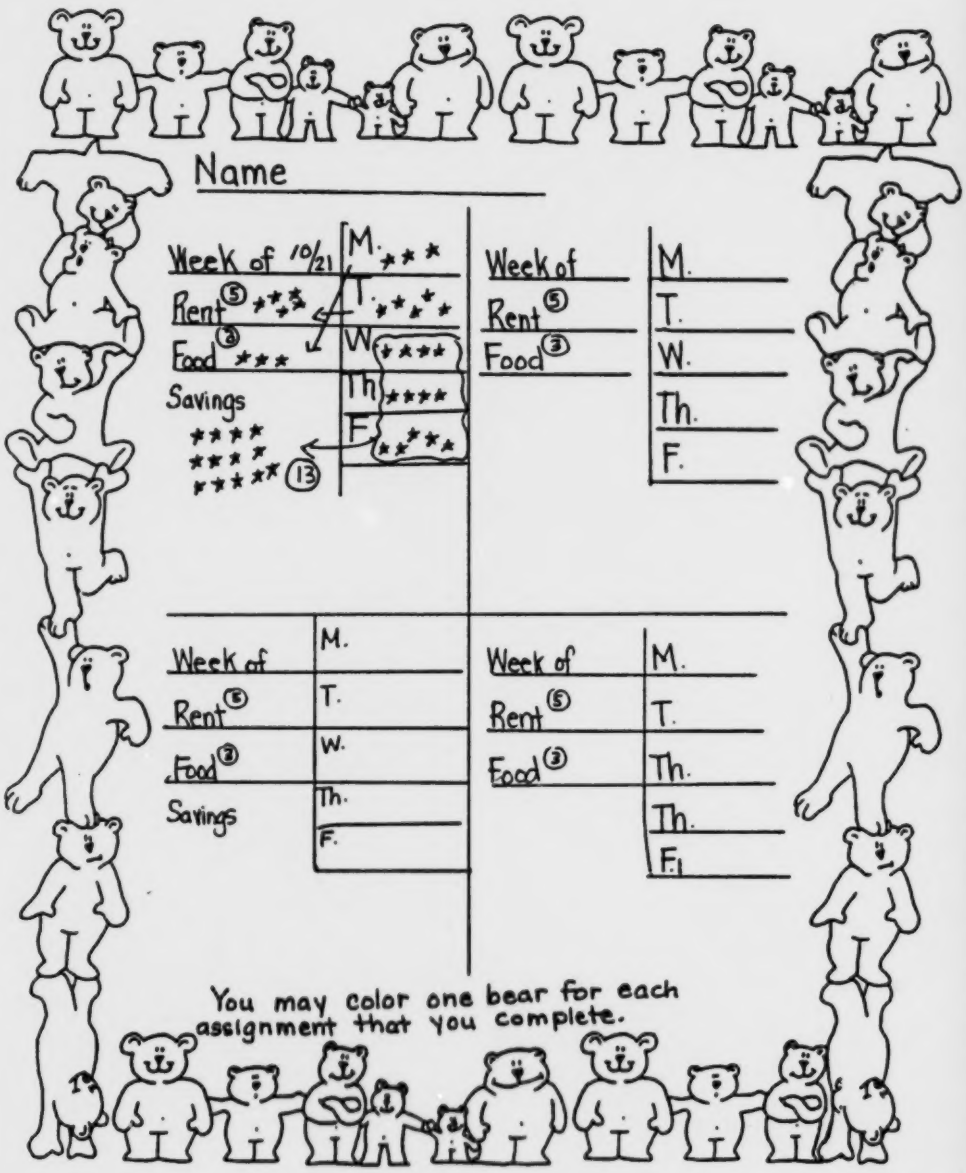
Thursday
- ☐ Spelling partners
- ☐ Alphabetize 5 words from the Bear word chart.
- ☐ Write a letter to a bear.
- ☐ In your best handwriting - write 3 Block Bear facts
- ☐ Listening Center - Ira Sleeps Over

Extra ☐ ☐ ☐

Friday
- ☐ Graphing bears
- ☐ Which Bear Am I? (fact sheet)
- ☐ Drawing Bears
- ☐ Listening center... Blueberries for Sal
- ☐ Copy poem and illustrate

Extra ☐ ☐ ☐

Extra
- ☐ Bear Puzzle Math Sheet
- ☐ Sort and Count Bears
- ☐ Use map to locate where black bears live.
- ☐ Bare - Bear
- ☐ Read a Little Bear book.
- ☐ 100% on spelling test
- ☐ Make your own Teddy Bear
- ☐ Use a map to locate where Brown Bears live.


Name
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13
Week of
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Fi
You may color one bear for each assignment that you complete.

To Market, To Market to Buy a Fat Pig

Abstract

During Newspaper in Education Week, students in 7th grade reading classes will have an opportunity to become acquainted with the market system by working with a learning center. Using a familiar nursery rhyme, the learning center will give students an opportunity to learn about the market system and competition. The students will also see how advertising can impact consumer buying habits by forming advertising firms.

Project One

Title: To Market, To Market to Buy a Fat Pig

Grade Level/Course/Subject: Seventh Grade Reading

Time Required: 2-3 Class Periods

Economic Concepts:

The market system competition

Instructional Objective:

The student will experience what it is like to be buyers and sellers in a competitive marketplace.

Rationale:

This unit will acquaint the young student with an introduction to the market system. By playing upon the theme of a familiar nursery rhyme, the student will begin to think about the market system: what it must take to "make it" in this competitive system. Hopefully, as we discuss the pork industry, the student will begin to think about how industries can add to a city's or state's well-being and can learn about Nebraska's industries.

Curriculum infusion:

This unit will be an excellent addition to the newspaper unit. There is a whole section of the paper about markets; plus many news stories on the front page about economics. This learning center will incorporate a very simple introduction to the "market system" by activity cards drawing upon the nursery rhyme, "To Market, To Market," and items in the newspaper.

Materials:

1. Learning Center
2. Activity cards

Elizabeth Olson
Millard Central
Middle School
Omaha Nebraska

Liz Olson holds a B.A. in English Education from St. Olaf College and a Masters in Reading from University of Nebraska at Omaha. She is currently teaching 7th grade reading at Millard Central Middle School where she serves as department head in reading for that building.

She is a member of the Metropolitan Reading Council, The International Reading Association, and The Association for Supervision and Curriculum Development.

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Procedure:

1. Point to the Learning Center and read the title, "To Market To Market To Buy A Fat Pig." Ask how many have heard the term "Market". (Show of Hands) Tell them to write down their own definitions of market and to compare their definitions with the one the person next to them has written. Ask for show of hands of those that were somewhat similar. Write the definitions on the board. Ask someone to go to the learning center and take the first "market" off and read the definition given there. (The interaction of all the buyers and sellers of a particular good or service.)

   Ask if all understand that definition. Ask for examples of a"good." Write on board. Have them tell their neighbors what the definition of market is. Have them write it in their learning logs once they understand.

   Ask what good we're going to be selling and buying in this unit? (pork)

   Ask what service we're going to be buying or selling that they can see in the learning center. (advertising.)

2. Teacher states that our focus will begin with goods - pork. Ask how many businesses they see on the chart that sell pork? (3) Name them. (Fat Pig Factory, Plump Pork Productions, Lean Loin Limited.)

3. Teacher states objective: Help you learn what it's like to be a buyer and seller in a competitive market.

   Ask students to think about that term competitive. Have someone turn over the second "market" on the learning center and read the definition (An economy in which decisions about WHAT to sell, HOW MUCH to make to sell, and TO WHOM to sell are determined by prices.) Have students write that definition in their learning logs to refer to during the unit.

4. Teacher explains Learning Center. Each side of the center has activity cards. One side is the Household part of the market. The other side pertains to the Business sector. Working with a partner, each student must complete 25 points worth of activities on each side. (A total of 50 points.)

Evaluation:

1. Each student will complete 50 points of activities in the learning center to be handed in.

2. In his/her learning log the student will write what s/he learned about the market that s/he didn't know before.

ACTIVITY CARDS

You are going to barbecue pork for the family reunion. You'll need 50 lbs. Which company will you buy from. List why. (10 pts.)

At the family reunion you served Lean Loin because there would be more meat and less fat. Everyone raved about how good it was. What effect will this have on Lean Loin Ltd.?

You are president of Fat Pig Factory. Lean Loin Ltd. has just lowered prices and people are flocking there. What can you do? (10-20 pts.)

Find a story in the paper about competition. (15 pts.)

Everyone is buying the Fat Free Diet book. Which of the 3 businesses will benefit? Why (10 pts.)

List some things you would pay a lot for. List the reason(s) why. (10 pts)

List some reasons a product would be sold out? Should the company make more? How much more? (15 pts)

Plump Pork Productions has too much pork. They decide to sell at clearance prices. Would this result in folks buying more of Plump Pork or less? Do you think the company would run out? What caused this big demand for Plump Pork? (15 pts.)

Ask your parents what changes they have made in their buying habits. How many of these changes were due to increases or decreases in prices? What would they do if prices went back to what they used to be? (15 pts)

If no one buys Fat Pig, but the factory keeps producing Fat Pigs, what will happen? Why? (15 pts.)

Ask your family which of the 3 pork producers they would buy from. List the reasons. Which would they NOT buy from. List reasons.

If people stop buying Fat Pig, list some things that company can do? (10-20 pts.)

Who would buy Lean Loin pork when it costs so much more? List 2. (10 pts.)

Project Two

Title: Advertising Plays a Part

Grade Level/Course/Subject: Seventh Grade Reading

Time Required: 2-3 class periods

Economic Concepts:

Competition

Rationale:

To teach students the part advertising can play in a competitive market. To develop questioning attitudes and awareness of advertising techniques.

Curriculum infusion:

Teaching students to be critical readers and thinkers is an integral part of the curriculum in 7th grade reading. Learning about propaganda techniques used in advertising is a fun and relevant way to increase the students' awareness of how much advertising influences what we buy. This activity will be a good lead-in to the propaganda unit.

Materials:

1. Program 2 from *Give and Take*
2. Handout 2-1

Procedure:

Divide class into cooperative groups. Explain that each group is an advertising company hired by one of the Pork-producing companies to help their sagging sales. Each group must use a decision-making grid (to be handed in) to come up with an effective newspaper ad to outsell their competitors. Finished ads will be displayed in the hallways. (Show program 2 from *Give and Take* which illustrates how to use a decision-making grid.)

Evaluation:

Assess the quality of the grid. Assess the quality of the ad through peer evaluation: Do you think the ad will result in increased sales? discuss the problems encountered while trying to come to a consensus in the group. (Have students relate how well they worked together on a continuum with 0 being no cooperation and 10 being very cooperative.)

HANDOUT 2-1

Directions: Each advertising agency team (group) must hand in the following:

1. The decision-making grid
2. The finished ad
3. Continuum indicating how cooperatively your team worked together.

(Note: There will be 5 in a group. A typical class size is 25-30. Therefore, two groups will be assigned to each pork campaign. Will be great competition.)

Group 1: Fat Pig Factory is facing stiff competition from Lean Loin, ltd. Their sales are way down and consumers feel their product is too unhealthy. The board of Fat Pig Factory is counting on you, Ace Advertising, to give them a new image.

Group 2: Plump Pork Productions is doing a little better than Fact Pig Factory, but cannot compete with Lean Loin Limited. If they cannot improve their sales this quarter, they face bankruptcy. The president of Plump Pork, Miss Piggy, is counting on you, Best Advertising, to revive their sales.

Group 3: Lean Loin Limited is enjoying increased sales due to the popularity of the Fat-Free diet trend. The company realizes their product costs more. They have come to you, Great Results Advertising Company to help them keep their competitive edge.

Project 3

Economically speaking

Grade Level/Course/Subject: 7th Grade Reading

Time Required: 1 week - all year

Economic Concepts:
Economic terms

Instructional Objectives:
To help the student understand economic terms

Rationale:
Every day in the newspaper, on the radio, at the dinner table, the student will see/hear economic terms. Development of economic vocabulary is important.

Curriculum infusion:
Wednesday is Wordsday in our classroom. The students bring a word they have run across in their reading and teach that word to the class. During the economics unit, we will focus on economic terms.

Materials:
Transparencies, markers, construction paper, chalk, chalkboard, overhead, tape player. The student may use any medium or material within reason. S/he needs to make arrangements ahead of time to make sure s/he has what is needed.

Procedure:
The student finds an economic term either in the paper, a magazine, or his/her reading. The student writes the word on the overhead or board IN CONTEXT and gives the class time to look at it. The student then pronounces the word, dividing it into syllables and pointing out any affixes.

The student then TEACHES the word to the class in any way s/he chooses. Some students in the past have used rhyme, games, cartoons, demonstrations, raps, songs, puns.

After the student has taught the word, the class writes the word in their learning logs again IN CONTEXT, and are urged to look for the word. Sightings of the word are reported the rest of the week. You can keep a tally on a chart, if you wish.

Evaluation:
Assessment of the presentation. Anytime the student uses a word we've learned on Wordsday in his/her journal or assignment, s/he circles it to call it to my attention, and I add a couple points to their grade.

The Theatre on the Road

Abstract

The Theatre On The Road unit was designed to offer students the opportunity to plan, rehearse, and perform a children's one-act play in a touring format. This unit was designed to be a noncompetitive, positive, cooperative endeavor between my school and the schools and care facilities in our geographic area.

Project Description

For many years I have wanted to develop a project which would allow my drama class students to experience the work, responsibility, and thrill of performing theatre on tour. Initially, it seemed to me that the financial burden to my school and the logistics of such an endeavor would prevent its success.

As I investigated, however, I realized that my school is one of many school districts in our geographic area. In looking at a map of Nebraska, I realized that this is true of most schools in our state. Using a map as a guide, I was able to plan potential itineraries for my tour theatre project involving several school systems within a small geographic area. The proximity of the schools and care facilities would reduce travel time and significantly reduce tour cost.

I contacted the administrators of potential tour sites and was pleased to find that all were excited about the prospects of having my group include their facility in our children's theatre tour schedule. Many cited the high cost of regular assemblies and the fresh idea of a troupe of traveling high school actors as reasons for their excitement. Administrators from both elementary schools and long term-care facilities were extremely cooperative in helping me schedule the tour's performances. The schedule of our tour was finalized with one dress performance to be held at the local senior citizen's center at noon on Wednesday, with the touring performances planned for the next day. The tour schedule consisted of five performances, the first of which would take place at our own elementary school, and the final production would be performed at our local long-term care facility. The three other productions would be presented at the elementary schools of neighboring communities. Although the schedule was tight, I anticipated that it would allow time for careful packing and unpacking of set properties and some friendly interaction with audience members at each stop.

Planning

The first step in creating a successful tour theatre project was, as in any theatre project, to choose a suitable script for production. The script needed to be chosen early enough in planning to allow perusal by prospective site administrators. I chose a script from a publishing company that would, for a nominal fee, grant production rights for one year. The advantage of this plan was two-fold. The fee of $15 was much less than the per-play royalties of many other companies, and the one-year production rights left us the opportunity for encore tour productions during the remainder of the year. I chose a children's theatre script that I thought would be fun and challenging to my students and acceptable to those elementary schools and care facilities on our tour schedule. In order to alleviate obvious tour problems, I also searched for a script which used either a simple set or an empty stage for production.

David C. Blessing
Elwood Public School
Elwood, Nebraska

A native of Techumseh, Nebraska, David earned degrees from the University of Nebraska-Lincoln, 1975, and Kearney State College, 1989. He has taught English, speech and theatre for 15 years in Nebraska, the last nine of which have been in the Elwood Public schools. Currently David enjoys his duties as K-12 guidance counselor and teacher of speech and theatre at Elwood. He and his wife JoD. have two beautiful daughters, ages 6 and 4.

The next step in planning our production was to create a division of labor in my drama classes. Students volunteered for committee assignments in the areas of costumes, stage and hand properties, makeup, and sound and special effects. One student from each committee was designated as committee chairperson. This process worked well for my classes; however, for smaller or larger groups one would have to adjust the assignments to give all students the opportunity for committee responsibilities. I also chose one student as director/tour production manager.

The following committees and their responsibilities were of great importance to the success of my tour theatre project:

Costumes - These students were responsible for the design, creation, or acquisition of all costumes. By borrowing locally and cooperating with our Home Economics Department costs were kept to a minimum.

Stage and Hand Properties - Students on this committee were charged with the responsibility of making or locating all stage and hand properties. Most of our hand properties were either made by the students or borrowed. Stage properties were often chairs or tables found around the school or items made of painted cardboard reinforced by 1" x 2" wood. These items were either donated or their costs were minimal.

Lights, Sound, and Special Effects - The importance of this committee would vary depending upon the requirements of the play chosen for production. We made use of live hand-produced sound effects and a committee-produced sound effects cassette. Because of the hazards of traveling, emphasis should be given to mobility of lights and effects.

Make-Up Committee members had the responsibility of designing the make-up for each character in the play. They were also responsible for helping cast members apply their make-up before the day's performances and the maintenance and repair of each make-up job during the tour schedule. To prepare for this task committee members used instructional make-up books, video tapes found in our class library and discussions centering on the make-up needs suggested by the script.

The job of student-director was one with great responsibility. This individual assisted me in the planning, scheduling, and rehearsing the show. While we were on tour, the student-director was assigned the responsibility of directing the pre-show preparation and the post-show striking and packing of set properties. The student director was also involved as a student representative in meeting and working with our hosts on location as we prepared for our performances and as we thanked them and wished them farewell.

Because I teach two classes of speech and drama, I cast my production twice, thus allowing more students the opportunity to perform on tour. The casts alternated performances from one community or location to the next with each cast performing technical duties for the other. For instance, a student might be cast in a major character role as a member of the company in one community and then be responsible for sound effects for the performance in the next.

Rehearsing the show was much like preparing for any theatrical production. For four weeks we spent class time either planning and executing committee assignments, or in blocking (designing) stage movement, developing characters, and rehearsing our forty-minute production. Lines were learned, stage movement was designed and learned, and actors' and technicians' duties were coordinated. I emphasized the importance of trust, cooperation, and adaptability to the cast and crew. The company members had to be prepared to perform in any space provided by their host school, and they had to be able to adapt to any condition that might arise. (Our cast performed one show admirably during a power outage at one of the elementary school visits).

Evaluation

I provided for the evaluation of my Theatre on the Road unit in three ways:

1. At the conclusion of the project each student evaluated the program and its impact on them personally by writing an evaluative essay.

2. The teachers and an administrator of each elementary school or care facility were asked to evaluate the tour theatre company by completing simple evaluation instruments and returning them by mail.

3. Finally, my Theatre on the Road unit was evaluated by my building principal.

I was excited by the positive response to my tour theatre project. Positive feedback was received from all teachers, administrators, and students. Teachers of students who attended the production appreciated the high level of interaction between their students and the actors of my company. Administrators were pleased with the quality of our performance, our organization, punctuality, and the level of cooperation which developed among our schools. Our school has decided to include the Theatre on the Road unit as a regular part of our schedule either every year or every other year as we plan for the future.

Support Materials

Document One
Rehearsal Schedule

Our rehearsal and production schedule could be modified to fit the needs of any school.

Week One:
Monday - Introduction to tour concept.
Tuesday - Students read play in class.
Wednesday - Students create audition pieces.
Thursday - Students audition for roles in class.
Friday - Students audition for roles in class.

Week Two:
Monday - Play is cast. Read script as an ensemble.
Tuesday - Students choose committee assignments.
Wednesday - Committees have planning meetings.
Thursday - Block (plan) stage movement, memorize lines.
Friday - Block (plan) stage movement, memorize lines.

Week Three:
Monday - Rehearse movement (blocking of Play).
Tuesday - Rehearse movement (blocking of play).
Wednesday - Check memorization of lines. Rehearse movement.
Thursday - Students rehearse the movement and their lines.
Friday - Committee meetings, rehearse the play.

Week Four:
Monday - Students are required to have all lines memorized.
Tuesday - Rehearse the play off book on lines.
Wednesday - Committees meet to work on responsibilities.
Thursday - Rehearse play, all sound and special effects should be included.
Friday - Rehearse play, all sound and special effects should be included.

Week Five:
Monday - Dress rehearsal, full costume, properties, make-up, sound effects and special effects.
Tuesday - Final preparation for tour.
Wednesday - Noon performance at the local senior center, review and improve in classes.
Thursday - Tour.
Friday - Review, discussion, closure.

Document Two
Production Schedule

Wednesday: Performance at local senior citizen's center at noon. Afternoon drama classes spent improving performances and final tour preparation.

Thursday:

8:00 am - Students prepare for local elementary performance.
9:00 am - Company performance for local elementary classes.
9:35 am - Pack bus for tour.
10:00 am - Arrive in first community on tour. Prepare for second performance.
10:25 am - Second performance of tour schedule.
11:00 am - Pack bus for second community on tour.
11:30 am - Arrive at second town on tour. Prepare for third performance.
11:55 am - Third performance of tour schedule.
12:30 pm - Pack bus for third community on tour. Lunch.
1:30 pm - Arrive at third community on tour. Prepare for fourth performance.
1:55 pm - Perform fourth show of tour.
2:30 pm - Pack bus and travel back to our community for final performance of tour.
3:00 pm - Arrive at care facility in our community. Prepare for final performance.
3:25 pm - Final performance.
4:00 pm - Move production equipment back to our school.

Document Three
Elwood Tour Theatre
Evaluation Instrument

Name of Evaluator
Position
Date of Performance

I. Please comment on the arrival of our tour group. Were we on time? Were we efficient? Were there any disturbances or problems involved with our arrival and preparation?

II. Please comment on our play selection. Was our play appropriate for your audience?

III. Please comment on the quality of our performance.

IV. Please comment on our exit from your premises.

V. Your additional comments are welcomed. Thank you for the opportunity to perform in your community.

Document Four
Sources for Scripts and Theatre Supplies

Contemporary Drama Service
Box 7710-X
Colorado Springs, CO 80933
(Offers one year performance rights on productions.)
(800) 93PLAYS

Pioneer Drama Service, Inc.
Box 22555
Denver, CO 80222-0555
(800) 333-7262

Heuer Publishing Company
Drawer 248
Cedar Rapids, IA 52406
(800) 950-7529

I.E. Clark, Inc.
Saint John's Road
Box 246
Schulenburg, TX 78956-0246
(409) 743-3232

Baker's Plays
100 Chauncy Street
Boston, MA 02111-1783

The Dramatic Publishing Company
311 Washington Street
Box 129
Woodstock, IL 60098
(815) 338-7170

Theatre House
Box 2090
West Third Street
Covington, KY 41012-2090
(800) 827-2414

Norcostco
3203 North Highway 100
Minneapolis, MN 55422-2789
(612) 533-3718

The Koto Music of Japan: A Lesson in Notation and Composition.

Grade Level: Seventh or Eighth Grade.

Abstract

The goal of this unit is to foster an appreciation and understanding of the traditional music of Japan. This will be accomplished by introducing the students to the Japanese koto, listening to koto music, and learning the system of notation used in koto composition. The students will then compose a short piece for the koto using Japanese notation. The results of this experience are an increased awareness of Japanese music and culture, and a real sense of personal involvement as a result of their composition experience.

Project Description

As educators, we do not need to be reminded how important it is to expose our students to the many cultural traditions of the world. Through the music of a "foreign land" we can begin to understand the cultural traditions of the people. However, Non-Western music has been noticeably absent from most music curriculums, especially at the secondary level.

The lesson plans that I have developed are an attempt to bring Japanese music into the classroom and hopefully break down some of the barriers that exist between "East" and "West." The lessons will focus on the Japanese koto and musical notation for this instrument and are designed to be used in a seventh or eighth grade general music class. I have found that these lessons and activities work most effectively if they are taught along with regular classroom activities. Some lessons may use the entire class period, others can be covered in ten minutes.

Specific Musical Objectives

I want my students to:

1. Know about three traditional Japanese instruments — the koto, shamisen and shakuhachi.
2. Learn about the koto — its construction, musical notation and performance practices.
3. Be able to identify the koto when they hear it.
4. Learn to sing "Sakura" in Japanese.
5. Learn about the pentatonic scale by using it in original compositions.
6. Learn the basic notation system used for Japanese koto music.

An Introduction to the Music of Japan

"What do you know about Japan?" This question will evoke a lively discussion and it is a good way to start this unit. As the students contribute their ideas, I make a list on the board. The list will likely include ideas about food, clothing, physical characteristics, geography, language, the written word and manufacturing — stereos, cars, motorcycles and musical equipment. We can always find something in our classroom that was made in Japan. I ask one student to find Japan on a map or globe.

"Discovering the Music of Japan" is a 22-minute video which covers three traditional Japanese instruments — the koto, shamisen and shakuhachi. This video is available from our Educational Service Unit. As the students watch, I ask them to look for things "Japanese" that we had on our list. This movie provides our first introduction to the koto.

Sandra McKirahan
Wood River Rural
Junior/Senior High
Wood River, Nebraska

Sandra McKirahan is presently employed by the Wood River Rural Junior/Senior High School as vocal music instructor for grades 7-12, a position she has held since 1989. Prior to this she taught both vocal and instrumental music in Iowa and performed with Quad City Flutes Unlimited. She received a Bachelor of Music Degree from Muskingum College, New Concord, Ohio, and is now working toward completion of a M.A., ED from the University of Nebraska at Kearney.

Listening and Performing

The following activities should be used in sequence but can be paced as the teacher wishes.

Koto Description

As the students enter the classroom, the tape of Sakura (Tape Selection #1) is playing. After reviewing the names of the three Japanese instruments which were described in the video, students are asked to identify which one they heard as they entered the room. Students are given a picture of the koto (Support Materials B, Exhibit A) and as we discuss it, they label the parts and write down anything else they feel is important. (See support Materials A)

Singing

"Sakura" is a Japanese folk song that may be familiar to students since it appears in many elementary music texts. (My students don't ever seem to know it, however.) I give the students a guide for speaking Japanese vowels and have them work with a partner to quickly figure out the proper pronunciation of the words. (Support Material B, Exhibit B) After we have learned the song, we discuss the pentatonic scale and how it differs from major and minor scales. As we sing "Sakura", students may improvise an accompaniment on the resonator bells (G, A, B♭, D, E♭).

Koto Notation

Listen to Sakura as it is played on the koto (Tape Selection #2). Koto players do not use the same kind of music that we use when we sing "Sakura." At this point, I put the koto notation for "Sakura" (Support Material C, Exhibit C) on the overhead projector, followed by the announcement that we are not only going to learn how to read this music, but we will be writing a song in Japanese. Students should discuss what they see and suggest how they think this notation works.

After I explain the notation, we listen to "Sakura" again and follow the music as I (or a student) point to the notes as the music plays.

Principles of Notation:

1. Music begins in the upper right hand corner and moves vertically.
2. Each of the koto strings is designated by a number (1-13). "Sakura" begins on seven.
3. Each box represents one beat (quarter note) and the half-line is a division of the beat (eighth note).
4. The double line = represents the end of one measure.
5. Rests are indicated by ⊙.

Composition

The first step in learning koto notation is to learn the Japanese numbers from one to thirteen. (Support Material C, Exhibit A). I have the students write each number several times and then I use flash cards to test their memory. They learn these numbers very quickly! I also have them sing "Sakura" with numbers, following the Japanese notation.

As soon as the students know the numbers and have a basic understanding of the notation system, they are ready to begin composing. Each student is given a keyboard instrument or set of bells that has each note in the pentatonic scale (Support Materials B, Exhibit C) marked

with a number from 1-13 that corresponds to a string on the koto. (I use removable "stickers" with numbers marked on them) NOTE: If you have a large class and only a few keyboard instruments, students can work on this assignment while the rest of the class is doing a group activity. There are certain guidelines they must follow when they are composing. The melody must have some stepwise movement, some skips and must have some repeated notes. There must be some rhythmic variety, including rests. It must be from 8-12 measures long and must use only those notes marked with the "stickers". The students should first write their compositions on the blank "staff" paper (Support Materials C, Exhibit B) using "American" numbers. After I have listened to it, the student will write it in Japanese and give it a title.

After each student has completed his or her composition we will have a"Performance Day." The pieces may be performed on the piano or on the synthesizer using a koto, harp or guitar sound. The students may perform their own song or I may play it for the class. (This is a composition project—performing is not the goal.) The students are evaluated on this unit by taking a written test over facts about the koto, including their knowledge of the Japanese numbers. The composition is graded according to the guidelines that were set for them to follow.

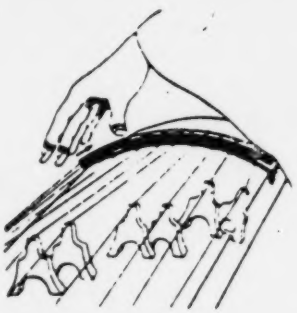
Junior High students have a variety of musical interests and abilities. Many of them have already decided that they are "no good" in music. I have found that teaching Japanese notation is a project where all students must begin at the same level—the beginning. No longer do the band students or the pianists have a decided advantage over the others. All of the students enter into this project on equal terms. Often it is the "non-musician" who enjoys this the most because he/she has a real sense of equality and accomplishment.

Physical Characteristics of the Koto

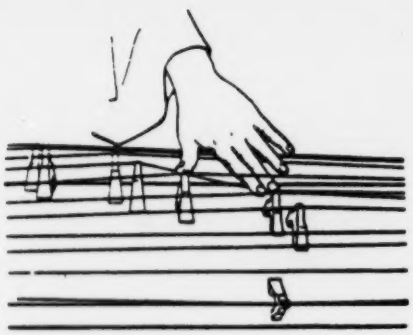
Made of Paulonia wood, the koto is approximately six feet long, ten inches wide and about two inches thick. The instrument appears to be made from a single block of wood although it is actually constructed from two separate pieces. One is hollowed out, leaving two sides and an arched top, and the second piece is glued to the first. Two small openings are cut on the under-side of the koto. They facilitate stringing the instrument and also act as acoustical openings in the body of the koto much as the "F" holes do on the violin. Thirteen silk or nylon strings are stretched from end to end over the body of the instrument. The strings are of equal weight and tension. Different pitches are provided by placing ivory, wood or plastic bridges under each string at different positions along the body of the instrument.

Playing the Koto

To play the koto the performer kneels on the floor beside the instrument and strikes the strings with ivory plectra (tsume) which have been placed on the thumb and first two fingers of the right hand. Pitches not found in the basic tuning—chromatic tones as well as those omitted from our seven-tone scale—are available by using the left hand to apply pressure on the strings to increase the tension and raise the pitch. Other basic playing techniques include using the left hand to pull on the string to lower the pitch, scraping along the length of the string with a tsume, and using the left hand to press on the string in a measured pattern to produce a vibrato.



Right Hand Playing Position



Left Hand Playing Position
to Raise the Pitch

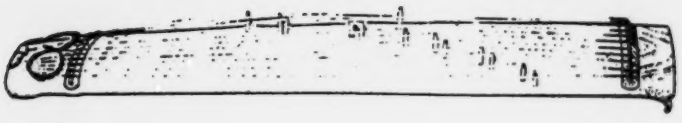


Exhibit A

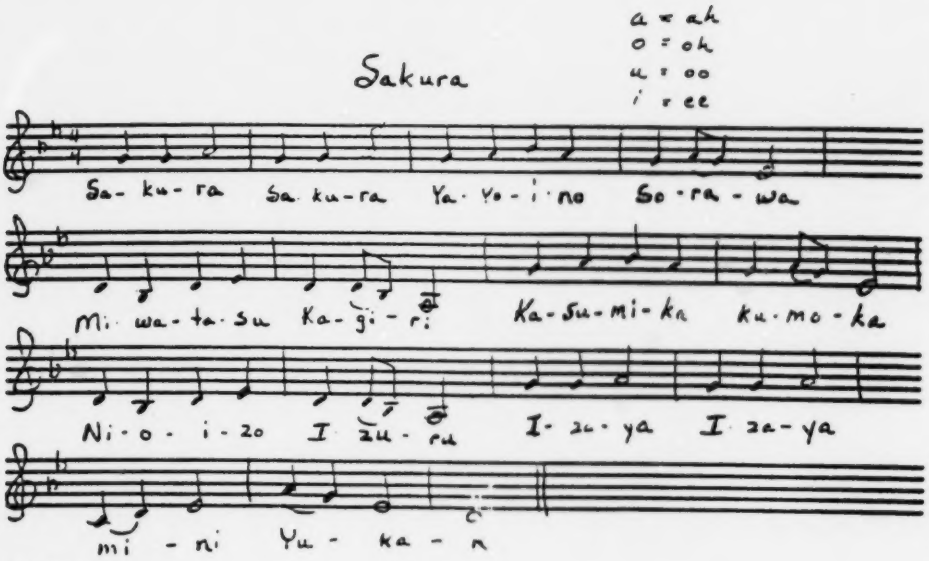
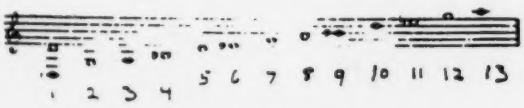

a = ah
o = oh
u = oo
i = ee
Sakura
Sa- ku- ra Sa ku-ra Ya· Yo- i· no So· ra - wa
Mi· wa- ta· su Ka- ji- ri Ka- su- mi- ka ku· mo- ka
Ni· o· i· zo I zu· ru I· ze· ya I za- ya
mi - ni Yu - ka - n

Exhibit B

Tuning the Koto

A variety of pitches and scalar forms are available on the koto but is more often than not tuned in a pentatonic 5-tone scale with doubling at the octaves. The most popular tuning is HIRA-JOSHI (common tuning). The pitches are shown below. This is the tuning used for Sakura.

Exhibit C



Support Materials C

Sakura

Exhibit A

Exhibit B

Exhibit C

A Clear View of the Prairie

Grade: Middle School

Abstract

"Art is humanity's most essential, most universal language. It is not a frill, but a necessary part of communication." Ernest L. Boyer

This unit of study will examine the importance of art as a tool for recording historical moments. This study will encourage individuals to discover the uniqueness of the historical heritage of the area in which they live. Students will examine some of the artwork done in Western Nebraska by artists traveling with explorers at an early time. The unit activities include discussion and creative writing as well as production of art.

Rationale

We all live in areas that are rich in history and culture. The kind of traditions which develop in areas of our country are based upon the inherent cultural heritage. The visual art, music, and literature of a people speak on a level that sometimes cannot be described in words. Becoming aware of culture through the study of visual art, music and literature can help develop within students a respect and understanding of people different from themselves, those that preceded them. The student will also understand the origins of the traditions in their community, such as rationality of the community's name and street names, history of architecture, and origin of celebration activities.

A project such as this could be done in any area or community, but this one centers on the history and cultural background of Western Nebraska. I began working on this unit when I became aware and enthusiastic about two visual artists who recorded the landscape and its contents in the early 1800's. These artists witnessed this part of America before it was settled. This was exciting to me, to see the landscape and people from so long ago. My "discovery" of this art awakened a curiosity in me for the history of the area in which I live. History had always been a subject that seemed irrelevant and tedious to me in high school. But through visual art comes a better understanding of the words one reads about a culture and its history. Artists tell one more about history than history books. The arts can bring the study alive.

Patricia Mays Zadina
Ogallala Public Schools
Ogallala, Nebraska

Patricia Mays Zadina received a BFA in Education and an MA degree in curriculum and instruction from the University of Nebraska-Lincoln. Patricia has taught in the Western Nebraska area for seventeen years, the last nine at Ogallala Middle School. She is continually working for improvement in art curriculum. For the past four years she has been developing decipline based art curriculum within the Prairie Visions Consortium

Project Description

Looking at Art

What can a teacher do to slow down the "looking" process in students? Most of us do not take time to really see and enjoy the visual richness around us. With the following exercises the student will need to consider the art work in more depth and really see what there is to see.

If a gallery is available to the teacher and students, it would be desirable to plan a visitation. If the visitation is not feasible, reproductions and slides can be used instead. Here are a few suggestions for looking at art with children:

1. Focus on what captures attention.
2. Do not feel students should be exposed to everything. Work with a few objects in depth.
3. Students can work alone or with others. Group activities can sometimes stimulate ideas.

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4. Do not rush. Active and creative thought comes when we strain to think of just one more thing.
5. Avoid telling titles and other information about the work initially. Focus on students' interests, rather than what is said about the piece, historically.

Activities for Active Thinking

Students can become aware of much more about an art work when considering responses to the proper kinds of questions. Questioning can be a tool for a teacher to bring discovery to a student. When we are face to face with art, what can we learn? Dr. Marty Rosenburg of the University of Nebraska at Omaha says, "We can learn what it meant to be human in another time and place." Dr. Francis Thurber says, "Art helps us to understand our universal connection to the human race. What is universal in human experience, what is different? Art is a fundamental connector between cultures." There is much to learn from the study of art that can help students understand the productive aspect as well. We can involve students so that they are learning actively instead of only listening passively to the information the teacher gives them.

A small sample of possible questioning strategies follows:

- While viewing Alfred Jacob Miller's *Scottsbluff Near the Nebraska*, water color, discuss the following with the students.
- What do you see in this picture? In what style is this done? (abstract, realistic, expressionistic, or romantic)
- What is the main object of the picture?
- What can we learn from looking at this?
- Who was this work made for?
- How would this work affect me if I were in a different culture?

While viewing Alfred Jacob Miller's *Bull Boating in the Platte River*, ink wash and watercolor, discuss the following with the students.

- Two versions of this scene are available to view. What similarities are in the two pictures?
- What is different about them?
- What difficulties are these people having in crossing the river?
- How does the artist successfully tell us there are difficulties to face?
- Why did the artist choose to convey this subject in this way?

While viewing Alfred Jacob Miller's *Night Scene—Buffaloes on the Prairie*, discuss the following?

- What do you see?
- What colors does the artist use?
- What mood is created?
- Is this a realistic scene? Why or why not?
- Why did the artist choose this scene to paint?
- Is this image important to us today? Does it help us to understand this time period?

Compare the above picture to George Catlin's *Buffalo Hunt, Upper Missouri.*

- What differences do you see in the image of the buffalo?
- Is this realistic? Why or why not?
- What lines are predominant?
- What is the mood of this picture?
- How does the artist create this mood?

By questioning, the teacher is able to help students see the important aspects of the art work without narrating to the student what they should see. Learning is more active and the students remain more interested.

Writing Activity

While viewing *Scottsbluff Near the Nebraska*, read:

I am the sand that forms the ledges,
I change my shape with the rain and the wind.
I am the tree,
My roots hold the ground solid.
I am a dead root protruding from the ground,
My job is finished,
The ground is gone around me.
I am the yellow flowers,
I dot the landscape with color.
I am the crevice between two rocks,
I am worn away by the eager feet of children climbing.

And read:

Grass and trees mask the beauty of the foundation we stand on. Though they are themselves beautiful, their beauty is overpowered by the wrinkled rocky landscape revealed by the centuries of time which have passed before this moment. Maybe it is not that the rocks are more beautiful than the trees, but it is the contrast.

Assignment

While viewing *Caravan on Platte River*, answer these questions to yourself. Take notes on descriptive words or phrases that come to mind.

What do you see?
Colors
Values
Shapes
Lines
Texture
Space
What do you see?
objects
people
action

Write a description of what you see. This can be in prose or poetry. Pretend you are watching. Or pretend you are one or more of the forms in the picture. (a tree, a rock, water, horse, Indian) Which part of this picture would you most like to be?

Production Activity
Be an Explorer
Media: Pencil, watercolor
Location: natural setting
Introduction:
Why was Miller's art important? What would it be like to be the first to make pictures of a region not many eyes have seen? Would it be exciting to you?

Artists still paint and draw scenes that are original to them. Original means that it is the artist's own idea, they did not copy or look at a picture that someone else made to get an idea for their art. We are going to explore and make some pictures of our own discoveries. What could you include in a picture like this?

By recording the scene you choose, you are preserving the history of the moment! That's exciting! Did you ever think of art in that way? That makes art important. Think of all the paintings and drawings that have been made to show the viewer how certain buildings, people, plants, animals, and activities looked. Would you know what George Washington looked like if no one had painted his portrait?

Further Study
The people who Miller found when he came into this area were the Indians. These Indians were nomadic which means they moved about the plains. The tribe which lived in the Ogallala area were the Oglala (scatter one's own) band of Teton Sioux Indians.

The Sioux decorated many of their clothes and tee-pees with designs. Some of these designs were called pictographs and some were geometric. Geometric designs are quite universal throughout all cultures.

Students interested in research may want to find areas in which geometric designs are used cross culturally. Ideas for other art work by students could also be taken from the designs found in these Indian artifacts. Artwork such as quilt designs, mosaics, fabric designs, jewelry, and abstract paintings are some ideas that could be motivated by a study of geometric designs in artifacts from the history of Nebraska.

When studying artifacts from other cultures, consider whether the object was intended to be art. Did it have a ceremonial purpose? What characteristics of the object make us think of it as art (even if it originally served another function)?

Support Materials

Slides may be obtained from Joslyn Art Museum, 2200 Dodge Street, Omaha, Nebraska 68102, Phone: 402-342-3300

From the collection of Alfred Jacob Miller:
#17 "Scottsbluff Near the Nebraska"
#12 "Caravan on Platte River"
#56 "Bull Boating on the Platte River"
#102 "Bull Boating across the Platte"
#19 "Buffaloes on the Prairie"

From the collection of George Catlin:
#15 "Buffalo Hunt Upper Missouri

Art Parts/Art in Our Culture

Grade: Ninth and Tenth

Abstract

An introductory art class for ninth and tenth grade students which emphasizes developing pride in craftsmanship, understanding the building of ideas through creative problem-solving, gaining skills and techniques of working with diverse media, and gaining insight to art as a part of culture.

These goals are met through personalizing each unit of study. Students find examples of art connections in their personal lives, family, school and community.

Project Description

ArtParts/Art in Our Culture is an introductory class for ninth and tenth grade students. This course was designed to maximize the use of the community as a resource of art and to help students realize and attain life skills, including having pride in the results of their work effort.

The semester class is organized around six units. Each unit introduces art forms from a particular time in American history, a traditional art media, and assists in developing skills and attitudes that will improve their understanding of the ingredients of creating. The units are as follows:

Native American Art
✔ An Introduction to Clay
✔ Craftsmanship

Early American Folk Art to High Art
✔ An introduction to Fibers
✔ Your Cultural Heritage

Early American Illustrator - Artist
✔ An introduction to Drawing
✔ Subject Matter Inspiration and Development

The Artist as a Trend Setter
✔ An Introduction to Painting
✔ Creative Problem Solving

Architectural Heritage
✔ An Introduction to Three-dimensional Design
✔ Cultural Heritage
✔ Using and Extending Ideas from our Past

Art as a Reflector of Contemporary Society
✔ Introduction to Printmaking
✔ Visual Arts as a Language and Communicator

Jean Detlefsen
Columbus High
Columbus, Nebraska

Jean Detlefsen has taught art at Columbus High for seventeen years. She holds a B.F.A. in Education and an M.S. from the University of Nebraska Lincoln. Being an active educator at the local, state, and national level, Jean has received the honors of 1985 Nebraska Art Educator, 1989 CEA Distinguished Educator, 1990 NATA Roscoe and has been appointed to the National Board of Professional Teaching Standards - Art Standards Committee.

The first unit focuses on Native Americans, challenging stereotyping of any culture by helping students recognize the uniqueness of one Native American nation to another. Emphasis is on how making things is a part of culture, how these skills are passed from generation to generation and how the works and skills are valued. Students design and make their first piece of pottery in the tradition of the Pawnee, native to our area.

After receiving information on early American settlers, folk arts, and the many forms art takes in contemporary society, the second unit asks students to find their individual connection to art through family investigation, (being sensitive to traditional/non-traditional family structures). In addition, students experience a scavenger hunt in which they search for art in their school and community. Students are asked to research a nationality, preferably their own, and try to find their art global connection in an art history text. Success and failures become interesting topics for discussion.

This assignment was very open ended and the results are always pleasing. Students have an opportunity through discussions and writings to get to know each other and take pride in their individual uniqueness.

The third unit reveals early American illustrators as recorders of events and scenes. Students are sent out with a similar task and quickly understand how the camera has changed our way of viewing the world near and far. Traditional drawing and printing techniques bring students to reflect on their observations through the eyes of the realist and the romanticist, as did Bodmer and Bierstadt who both illustrated scenes in Nebraska.

The artist as trend setter unit asks students to look to ideas from the past and how contemporary artists have found new ways of using materials to present similar themes. Using creative problem-solving techniques students invent new ways of expressing their ideas with paint.

Columbus becomes the art gallery when we study local building that have been recorded by the Nebraska Historical Society. Students identify homes and commercial sites connecting them to historical architectural styles.

Students are challenged to create primitive dwellings as the first examples of architecture and then move to sculptural, architectural collages.

The semester ends as students examine "We the consumers of those arts." Andy Warhol and Pop Art illustrate American mass production. After discussing Warhol's comment on our society, students use journals to go in search of the visual communicators in their society. These findings and discussions move to topics for their final art work in a print process.

When student leave this semester they have an understanding of art as a part of culture, their daily life and the work effort it takes to plan and implement a product that they are proud of.

Play Writing and Theatrical Production

Title: Play Writing and Theatrical Production: A Four-Phase Student-Centered Unit Combining Drama and English

Grade: 10th - 12th

Abstract:

In an effort to create meaningful learning opportunities, and subsequently to augment student achievement in the area of fine arts, introductory-level drama students and sophomore English students have been combined for the purpose of writing, directing, performing and producing theatrical presentations. Results include: Expanded appreciation and understanding of the fine arts, development of better informed critical audiences, enhanced meaningful learning opportunities, development of student self-confidence, and development of more effective communication skills.

Introduction

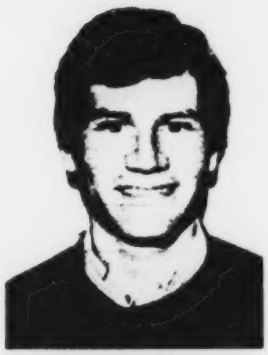
The combining of curricula between two or more subject areas is becoming increasingly popular as a means of enhancing student achievement and learning. Such combinations promote creative processes, allow for both convergent and divergent thinking, and create unique and meaningful learning opportunities.

John Goodlad, in his exhaustive study of U.S. education, *A Place Called School*, reported that "meaningful learning opportunities" were seldom made available in classrooms. "Only rarely did we find evidence to suggest instruction likely to go much beyond mere possession of information to a level of understanding its implications and either applying it or exploring its possible applications (Goodlad, 1984)."

In an effort to create meaningful opportunities, and subsequently to augment student achievement in the area of fine arts, introductory-level drama students and sophomore English students have been combined for the purpose of writing, directing, performing and producing theatrical presentations. In light of the positive results generated by this combination, we submit this proposal to the Cooper Foundation for the purpose of providing curriculum which transcends "mere possession of information."

Participants

The students involved in the drama/English combination are drawn from two classes. Though primarily sophomores, the drama students range in age from 15 to 18, are at the introductory drama level, and are not grouped according to ability level. the English students involved in this program come from the tenth-grade population and, in accordance with the district/school building policy, have been grouped according to California Achievement Test (CAT) scores. The particular ability level of the English students participating in this program can be termed "mid-range."



Randal M. Ernst
Lincoln High School
Lincoln, Nebraska

Randal M. Ernst is in his eighth year of teaching Language Arts and psychology at Lincoln High School. A Nebraska Wesleyan University graduate, Ernst is currently serving as one of three U.S. teachers on the college Board Committee to develop the Advanced Placement (AP) Psychology Test. Ernst is married and the father of two.

Joseph L. Kreizinger
Lincoln High School
Lincoln, Nebraska

Joseph L. Kreizinger, completing his tenth year as a secondary instructor, is a teacher of theater arts and English at Lincoln High School. A graduate of the University of Nebraska-Lincoln, Kreuzinger is a doctoral student in Administration, Curriculum and Instruction at UN-L, with focus on English and theatre education.

Apparatus

A room large enough to accommodate students of both the drama and English classes is necessary for these combined activities to take place. A performance area, though not necessarily an auditorium, must also be accessed.

Book titles for the pre-unit activities (explained in the "Procedure" sub-section) were selected from district curriculum guidelines.

Procedure

This program involves a four-phase procedure:

1) Assessment/orientation, 2) Development, 3) Implementation, and 4) Evaluation. Prior to the Assessment/orientation phase, the drama class will have completed an introductory play writing unit, while the English students will have completed a unit on the essential components of the short story. A suggested time-line may be found in the Appendix (A).

Phase I (Assessment/orientation) is actually the culmination of the English class unit focusing on short story essentials. This phase involves the English students in a performance activity in which they outline, rehearse and act out, in small groups, three-to-five minute scenes from short stories studied in that earlier unit. For example, a three-to-five minute scene over Poe's, "A Tell-Tale Heart," might highlight the confrontation between the interrogating officer and the assailant. The drama teacher is made available to assist students in scene development.

Further, the English students know in advance that the drama students will be observing and critiquing the performances, using typical evaluation methods found in any drama textbook. The purpose of this initial interaction and observation is multi-faceted. The drama students gain insight into the acting abilities of the English students, their counterparts in the upcoming theatre project. The English students receive valuable feedback with regard to acting basics. An indirect benefit of this interaction involves the sense of familiarity and trust which develops between the two student groups, a requisite to the success of this project.

Phase II (Development) includes the combination of the two classes, the division of students from both classes into small combined groups, the writing of short stories from which scripts will be drawn, and a discussion of the process, goals and rationale with the student participants.

The most successful small groups have been comprised of either three or four students. While small groups often include equal numbers of drama and English students, it is common to pair a particularly strong drama student with two or three English students. This process typically generates from ten to fifteen small groups.

Writing the short story usually requires a minimum of three school days. Length is variable, but students are aware that a three-to-five minute performance will be adapted from the story. The English students, who have had experience in study of the short story from the preceding unit, lead in the development of the short stories. Themes are also provided as a point of focus and as an aid to writing. e.g. young adult concerns, trust vs. mistrust or environmental issues.

Phase III (implementation) finds the drama participant(s) in each small group leading the adaptation of the short story written in Phase II into a play script. The groups work together until the completion of the project.

Upon the completion of the script-writing, the students cast, block and rehearse their productions. These tasks are coordinated by the drama student(s) in each small group, but it becomes the responsibility of all group members, from both drama and English classes, to prepare and perform their theatrical presentations. This phase requires a minimum of three days and leads to the performance of each small group's work. Performances may be conducted during the school day or after school so that a larger audience, including parents and peers, may attend. Posters, developed by the students involved, may also be posted around the school and community to advertise the performances. Finally, the performances are videotaped for evaluative purposes.

Phase IV (Evaluation) is particularly important for the success of this program. While the actual student performance represents the culminating activity of this program, it is the process which must be emphasized throughout and when evaluating the success of the unit. Evaluation procedures include peer review and analysis of the entire process (see Appendix B), and facilitator review and analysis (see appendix C).

Results with Discussion

The combining of drama and English students for purposes of writing and producing theatrical performances has proven effective in enhancing student achievement and learning. By combining the curricula as described above, students are provided opportunities to work cooperatively toward reaching common goals, and further, students are given the responsibility to lead, or "direct" the various stages of the production, areas in which they have already achieved a certain level of "expertise" through previous study.

Evaluation procedures such as peer review and analysis and facilitator review and analysis (see "Evaluation" sub-section) have provided evidence that this program has resulted in five major areas of improved instruction:

1. Expanded appreciation and understanding of the fine and performing arts. Sophomore English is a district requirement of all students, therefore the number of students eligible for involvement in this program is very great. A majority of English student participants indicated this was their first "active" exposure to the fine arts. Through such exposure, many students become invigorated in the fine arts, and pursue further study, either through formal course work or informal, personal study.

2. Development of better informed, critical audiences. Actual experience in the production of theatrical performances builds foundations for comparison regarding writing, directing, acting, and production. Students come to realize and appreciate the dynamic nature of the fine and performing arts, and become better able to evaluate others involved in the field.

3. Enhanced meaningful learning opportunities. More meaningful learning opportunities are created due to : (a) increased student participation in the developmental process of the activity,fostering a sense of "ownership" in the project, and (b), the application of previously-learned material to novel situation which make this material personally relevant and thus more meaningful.

4. Development of self-confidence in students. Through the assumption of leadership roles, students build esteem and confidence in their abilities to deal effectively with their peers. Success in this cooperative venture further develops these traits.

5. More effective communication skills. Actively participating and performing provides the opportunity to develop better and more effective communication skills.

Student evaluation (and analysis) suggest this unit to be a favorite among students. Further, upon reviewing this model, several of our colleagues have expressed an interest in adopting this unit into their curriculum, noting its ease in duplication and proven successes.

Finally, we believe this four-phase student-centered fine arts unit combining drama and English can be implemented in practically any secondary school setting. Its implementation is certain to promote a greater appreciation of fine arts.

Support Material A
Timeline

Day 1-3 (Assessment/Orientation phase)
a. Selection of short story scene
b. Rehearsal of scene (assisted by drama teacher)
c. Performance/critique

Day 4-6 (Development phase)
a. Combining of drama and English Classes
b. Division of students into small groups
c. Writing of original short stories

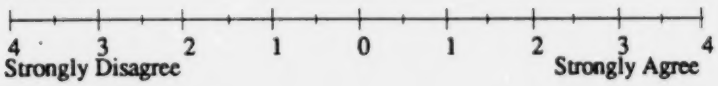
Day 7-10 (Implementation phase)
a. Adapting short story into script
b. Casting, blocking, and rehearsing the scene
c. Promoting the activity (publicity)
d. Performing the finished product

Day 11 (Evaluation Phase)
a. Peer review and analysis
b. Teacher/facilitator analysis

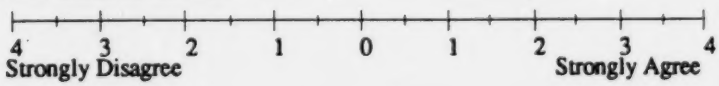
Support Material B
Evaluation Form

Please rate the following statements as they relate to your project.

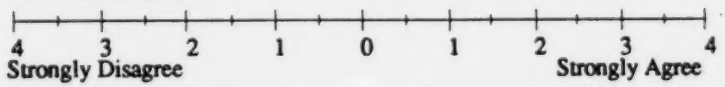
1. I now have a better understanding of the performing arts than prior to the completion of this unit.



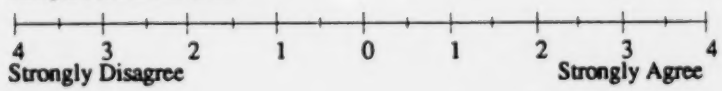
2. My evaluation skills, with respect to the performing arts, are better now than prior to the completion of this unit.



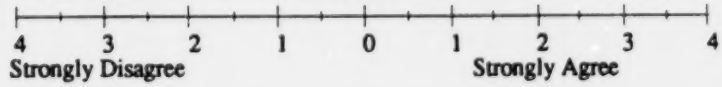
3. I feel as if I played a significant role in the successful completion of production in which I was a participant.



4. I am more confident in my ability to work and communicate with peers than prior to the completion of this unit.



5. I would recommend this unit be repeated in the future.



On the back of this sheet, please answer the following questions:

1. (a) What grade would you assign to your overall performance in this project? (b) Explain why you feel this grade is justified.

2. What were the most valuable aspects of this project?

3. If you could change this unit in any way, what changes would you make and why?

Support Materials C
Facilitator Evaluation Form

Evaluation of Performance Project: Each of the following will account for one-third of your grade for this performance project:

A. **Participation** (Use of rehearsal time, cooperation in small group and large group activities, providing appropriate input, attendance.)
TEACHER/FACILITATOR COMMENTS:

B. **Written Work** (Development of short story following principles discussed in class, development of suitable script adaptation)
TEACHER/FACILITATOR COMMENTS:

C. **Performance** (Characterization, voice, movement, creativity, concentration.)
TEACHER/FACILITATOR COMMENTS:

SUMMARY:

A Sense of Self: Self Portrait

Grade Level: Senior High

Abstract

People have always been fascinated by what they look like. They want to know the image they project and how others around them perceive that image. By painting a self portrait, the student artist becomes absorbed in creating an image that makes a clear statement to others. This project combines portrait painting with color theory and makes a mundane color mixing exercise a memorable event.. Students discover a greater sense of self as they go through this painting experience.

Rationale

Students love to look at themselves in a mirror and are often preoccupied with the image they project to themselves and to others. By creating a self portrait assignment that assures success, this project combines self-discovery with the ordinary task of mixing tones of color. Often daunted by portrait painting, students create a personalized paint-by-number project for themselves with a slide projector and a ranking of numbers. Student self image soars and a basic lesson in color theory becomes well learned.

Student Objectives

1. To gain knowledge of Impressionistic painters.
2. To understand the color theory of mixing tints and shades.
3. To better understand the medium of tempera paint.
4. To foster self-esteem in students through the creation of their own image.
5. To provide the opportunity for all students to experience success at their own levels.

Art Production

Preliminaries

A week before portrait production begins, the teacher shoots photographs of all the students. Using a 35 mm camera and Ektachrome slide film (to accommodate for fluorescent lighting), students' head and shoulders are photographed one at a time with only a classroom chair as a prop. Allocate enough film for blinking eyes and absences.

The processed slides are previewed by the entire class. Everyone likes to see their face up on the big screen and the viewing builds camaraderie between students and anticipation for the project.

Check out all available slide projectors and extension cords from the media center and make sure they are in good working order. Four to six projectors are a good workable number.

Cut sheets of white poster board to approximately 20" x 14" on the paper cutter.

Collect baby food jars from students and faculty members for storing mixed paints.

Color theory learning has already begun with study of the color wheel and projections in warm and cool colors and color schemes.

Gretchen Peters
Gering Senior High
Gering, Nebraska

Gretchen Peters is an art instructor at Gering Senior High. Earning her BFA in Education at the University of Nebraska and Master of Science in Education degree from Chadron State College, she has taught for 20 years. She serves as a faculty member and consultant for Prairie Visions, a discipline-based art education program and was named as Nebraska Wesleyan University's 1989 Nebraska Artist/Art Educator of the Year. As an award-winning, working artist, Gretchen has two of her works represented in Nebraska's permanent art collection at the Museum of Nebraska Art in Kearney.

The Process

Elemental in any discussion of color are the terms hue, value and intensity. **Hue** describes the position of a color on a classic color wheel and is used to name the color - yellow, violet or red, for example. **Value** describes the lightness or darkness of the color - its position on a scale from white to black. **Intensity** refers to the brightness, saturation and impact of color.

Fundamental study of the color wheel is expanded to learning about variations of a color.

This project develops student knowledge of value, the lightness and darkness of color. The terms tint and shade are introduced as variations of value. **Tint** is the addition of white to a color to lighten it. **Shade** is the darkening of a color by adding black or a color's complement. The standard bars of colors are shown on a chart including a 20 chip range of white to black and a range from pink to maroon.

Using red as a base color, the instructor demonstrates the mixing of white and green tempera paint into swatches of red to show how red is transformed into the tint, pink, and into the shade maroon.

Student participation will be to choose a color from the twelve colors on the color wheel and mix seven variations of that color. Tempera paint will be mixed in baby food jars and labeled 1-7. The full strength color, red for example, will be in bottle 4. Three tints, 1-3 will use progressively more white so that #1 will be a pale pink. Bottles 5-7 will hold progressive shades of red, #7 being deep maroon. Students may also choose from the neutrals, brown and black.

The teacher darkens the room and projects a student slide onto the blackboard. Using chalk, the teacher begins drawing around the person's features, detailing line and changes in tone. Drawing the edges of eyes and hair is obvious. The main point of the project is to detail the subtle changes in tone that occur on the skin, in the hair and on clothing. Each shift of tone is to be enclosed in a shape so that the face will become a topographic map of lines like a paint-by-number project students did as children. Squinting at the image helps eliminate the color so students see just the tints and shades of their face. Students will then number the shapes created from 1-7. The middle tone will be 4, the very lightest 1 and the darkest 7. they must make value judgments to fill in the tone changes from 1 - 2, from 2 to 3, etc. This process becomes far more personal than painting the usual 3" x 1/2" swatches!

Fundamental study of the color wheel is expanded to learning about variations of a color.

These are the instructions students take with them to draw their own faces in a darkened part of the art room or a storeroom. Poster board sheets are masking taped to walls and the student's image is projected onto it. Using pencil, he proceeds to draw all the nuances of his face, hair, clothing, hands, and background.

Not all students will have access immediately to slide projectors so this assignment will overlap the previous color assignment, accommodating students who work at different rates of speed. Students are instructed to draw the more obvious lines first. As they become comfortable they will realize subtle shadings.

The more detail included, the more personal and realistic the portrait will be. After drawing is well under way, the paint-by-number-like shapes can be numbered. Number the obvious one first - the white areas will be 1 and the black appearing areas will be 7. Medium tones become obvious and will be 4. That leaves only two tints and two shades to mark, relieving student anxiety.

Once drawn, the student's next step is to simply paint numbered areas with corresponding colors from the numbered bottles of tints and shades. Painting takes from one to two weeks of class time.

Once all faces have been drawn and all students are at the painting stage, art history and aesthetics are included to enhance the experience.

Art History and Aesthetics

This project is based on the fragmented surfaces of light and color created by the French Impressionists one hundred years ago. The use of values, tints, and shades lends itself to the style of the Impressionists, particularly the meticulous Georges Seurat. The Impressionists revolutionized art from slick, perfected realism. When viewed at close range, impressionistic daubs of broken color tend to be more apparent than the forms. But when viewed at a distance, the daubs merge and shimmer into recognizable people. This kind of painting is often more fresh and vibrant than traditional painting in which the forms are carefully drawn and the colors are carefully blended. Impressionist Claude Monet said that the real subject was light and color and his goal was "to reveal no more of reality than the shifting flux of appearances."

Reproductions of portraits by Impressionists are shown to students even as they paint their own portraits in an Impressionistic style. As the images are shown, the history of the work is given and the class discusses the aesthetics of each work in relation to what they are doing. Each student's judgment about the qualities of the artwork is given consideration. A variety of Impressionistic Portraits is shown and discussed:

Georges Seurat - "Profile of Woman Posing," 1886 (pointillism used to show subtle changes in tone).
Vincent van Gogh - "Old Peasant of Provence," 1888 (vibrant tones of primary colors).
Paul Cezanne - "Portrait of a Man (The Watchmaker)," 1889 (the balancing of color and form in tones of blue).
Edouard Manet - "The Reading" 1868 (shading of white in a quiet portrait).
Edgar Degas - "The Singer With Glove," 1878 (stage - lighting shifts facial tones).
Edouard Manet - "Self-Portrait," 1879 (a build-up of brown tones).
Auguste Renoir - "Self-Portrait," 1875 (a light from within).
Edgar Degas - "Ballet Seen From A Box," 1885 (subtle shifts of lighting on color).
Pablo Picasso - "The Old Guitarist," 1903 (blue used to express melancholy).

Closure and Art Criticism

When all portraits are painted, they are displayed around the art room. Students assess their experience and critique their work and that of their classmates.

The student value portrait is a favorite and long remembered project. Success for all skill levels of students is virtually guaranteed as all students will see themselves materialize in tints and shades.

Shakespeare in Performance: An Interdisciplinary Approach

Grade: 11th & 12th

Abstract

This performing arts project is an interdisciplinary unit which combines skills in English, History, and Theatre. Students will study comedic theory, language and contextual meaning for a particular time period in history and specific pieces of Shakespeare's work. The product of their work will be expressed in the form of a playette which will reflect their research and classroom exercises in free writing. The final application of their work will involve the performance of a humorous parody based on the students' understanding of what was being said.

Introduction

The original idea for this project grew from a need to combine entertainment and learning for a non-Shakespearian audience at the Lincoln East Shakespeare Festival. This annual event involves all students and faculty from a wide range of backgrounds. The project began as a skit: its success both in terms of entertainment value and academic potential led to the development of a full-fledged teaching unit for the Shakespeare class, an interdisciplinary unit involving English, history, and theatrical performance.

Rationale

It is our belief that interdisciplinary units tend to deepen the learning of students. When students are presented with historical and cultural contexts, they have a greater perspective on the meaning of language, and the words of writers such as Shakespeare literally come to life. Moreover, when a student is asked to transpose the language of Shakespeare into comedy in contemporary form and perform the product, the entire effort calls upon the student's own critical thinking and active imagination. It seems apparent that significant learning is the result.

Goals and Objectives

The primary goal of the project is to develop an understanding of comedic theory. Another significant aim of the project is to enhance these learnings by the introduction of cultural and historical contexts, and to carry the learnings to their ultimate fruition: The performance of an original parody. The entire unit accomplished these goals, while at the same time, it provided an involved method of learning.

Long Term Goals/Objective for the Instructor(s)

1. Develop in students the ability to think and create while breaking down the mystery of the "Bard."
2. Develop in students an understanding of why creating their own comedic philosophy frees them from the dependence on the ideas of others.
3. Help students to create an essential link between themselves and Shakespeare which serves to make the material more accessible.
4. Demonstrate the interconnectedness of all peoples which is afforded by the study of comedy.
5. Provide for an alternative avenue of expression in the arts which could be a vehicle for the transmission of classical works to a larger student audience through performance.

Dr. Anne Cognard
Lincoln East High School
Lincoln, Nebraska

Michael F. Anderson
Lincoln East High School
Lincoln, Nebraska

We are both teachers at Lincoln East High School in Lincoln, Nebraska. Our combined total of teaching experience is 32 years. Dr. Cognard has a Ph.D. in Renaissance Literature, M.A. in rhetoric, and teaches Humanities, Shakespeare, and Advanced Placement Rhetoric and Composition. Mr. Anderson teaches Psychology and Citizenship Issues and has taught nine different Social Studies courses in the past seven years. Both of us are past winners of Cooper Awards and met during lapses of dignity at the Shakespeare Festival-Lincoln East and plan to continue to do so (for our mental health).

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** As with the short-term student goals, an interdisciplinary unit can be managed by the addition of objectives relevant to the added disciplines. For example, if a history instructor is involved, the long-term goals may also include the development of an understanding of how Shakespeare changed history, both to be accountable to the Tudors and for the purposes of drama. The teacher may wish to add a requirement for similar references in the parody written for the contemporized play. If a theatre instructor is involved, an objective for set design or costuming could be included.

Short Term Goals/Objectives for the Students
(See support materials for details)

1. Students will demonstrate an understanding of comedic theory in general by studying classical comedy and writing about it.
2. Students will generate an understanding of their own comedic philosophy through discussion of the question, "What is comedy?"
3. Students will apply these learnings to a specific work of comedy by transforming it to a contemporary parody. (We used "A Midsummer Night's Dream" because it is about love but is in no way vulgar.)
4. Students will perform their parody in order to bring their work to life. (See support materials for an example of a student-generated script.)
5. Students will be expected to write a parody of their original rewrite at which time the students will become re-acquainted with their own comedic philosophy.

** If the unit is to be used as an interdisciplinary unit, objectives will need to be added for each additional subject area. For example, if a history instructor is involved, an objective for the research of cultural indications for the use of humor or for the general history of the time-period would be needed. If a theatre instructor wished to be involved, the objectives could be oriented toward the interpretation of character and the nuance of actual performance or toward the nature of performance in the time of Shakespeare.

Introduction

Though the origins of comedy are obscure, Arisotophanes' comedy seems to be bred from burlesque–like the Marx Brothers, like the Robin Williams' characters in "The World According to Garp" or "The Fisher King," like the beating scene of the Michael Caine character to the Steve Martin character in "Dirty Rotten Scoundrels." In such, the modern world reflects the same kind of approach to the humorous as did Aristophanes and his audience: tenuous plots, the introduction of the fantastical, penetrating satire, the mocking of public institutions and deeply held mores and values. Comedy, more than any other art form, connects cultures by overarching the specific institutions to its insights into the human condition.

In the study of "A Midsummer Night's Dream," it is possible to lead students inside the framework of the human mind as it creates and recreates and once again redefines itself through comedy. A study of "A Midsummer Night's Dream" can become a teaching technique not merely to show the characteristics of comedy, but to allow students to participate in the transformation, before their very eyes, of the seeming sameness of life to its just slightly beneath-the-surface dissolution into the comedic.

The Philosophical Background:

Students begin by studying comedic theory. For example, in David Daniell's "Shakespeare and the Traditions of Comedy" Daniell says: "In the world of comedy, where instincts and social imperatives come together, Shakespeare has a place, with his fools and juxtapositions... But in his riches of music and dance and song, in the calling up of enchanted places, in his catching of a paean to the life... he is outstanding in an English tradition of comedy." Another example comes from Richard Janaro in *The Art of Being Human*, where Janaro maintains, among other things: "Comedy discourages feeling, so that those who laugh are not enjoying the misery of a real human being... Comedy recognizes and makes allowance for human frailty... Both comedy and tragedy recognize the possibility that life may have no purpose. The possibility is treated soberly in tragedy, humorously in comedy... In comedy it is we who laugh, and we do so at the expense of the fundamental smallness of humanity."

After a careful study of the theories of others, students are then put in groups and asked to come up with their own philosophy of comedy. In answering the question, What is comedy? students discuss not only their position, but also the assumptions implied by their philosophies, assumptions about human nature, about the relationship of art to life, about the purpose of comedy, about the relationship between laughter and sadness, comedy and laughter, comedy and pathos, comedy and cruelty.

Once their philosophies are crated and reproduced for the class, then they are asked intellectually to apply their philosophies by comparing a comedy of Aristophanes (such as "The Birds" or "Frogs") with Woody Allen's "God: A Play," where Allen is intent on satirizing Greek comedy by creating such characters as Trichinosis, Diabetes, Bursitis, and Hepatitis, placed on the same stage with Doris Levine, from the "audience" of the play, and the Fates (Bob and Wendy). The comparison rests on the students coming up with their own characteristics of comedy—to show its "living" nature, e.g., its adaptability and metamorphosis through the centuries to indicate that human beings, regardless of culture and background, tend to look at the human condition in the same way and to create comedy as their "answer" to dealing with that condition.

The Application—Playette

The application of the theory of comedy is made specific to "A Midsummer Night's Dream." The intent of the learning of students is, as indicated in the objectives, to help them recognize how their own comedic philosophies have veracity; to help them transform something from the past into the present; to help them participate in the making and producing of comedy; and to help them understand more graphically the nature of their own humanity as seen through their own "playettes" compared with Shakespeare's play.

Students begin by free-writing while listening to the opening overture of Mendelssohn's "A Midsummer Night's Dream," though they are not told the title of the piece. Several students then read their free-writes to the class, while the teacher puts their ideas on the board under five categories: (a) individual work images ("teasing," "morning,' "dance," "flitter," "flowers," "fairies," "stream," "flurry," "pause," etc.); (b) oddities and aberrations, the fantastical and/or supernatural ("seven dwarfs," "rats," "rotting corpses," "dill pickles"); (c) normalcy of character and/or setting ("love," "chase scene," "lovers," "life," "man/woman"); (d) settings ("tropical forest," "castle," "Ballroom," "waterfall"); and (e) end results ("happiness," "imagination," "marriage," "darkness and dim clouds," "life-giving").

Each individual student must then "add up" the five columns, reaching the generality that can be seen from each of the columns. They are told to think of themselves as anthropologists who have just discovered separate pieces of data. Their job is to contemplate the data and to determine what generality or theories the data add up to in each of the five columns.

Then they are invited to write a playette. The first part is given as a prologue and is produced from the free-write based on the music. Each student must have a character named "Author" give the prologue based on his/her own free-write. Thereafter, the main playette is built from the bottom-line of each column: They use characters which represent the types indicted in column (c); they use a locale which represents the type of locale indicted in column (d); they use a general kind of resolution, end result, or culmination which is represented by column (e); they include in the dialogue the words indicated by column (a); finally, they include in the scene some element of the supernatural, the crazy, the unexpected, the odd, or the illusionary as represented by column (b).

Finally, the "author" character is asked to speak an epilogue built from Sonnet 18 by Shakespeare ("Shall I Compare Thee to A Summer Day") where the student's character compares love to a concrete object from the modern day, examines and displays the object, then ironically, as does Shakespeare, turns love back on itself by suggestion that it is the "Author" writing and not love itself which gives immortality to the words.

The Application-Performance

Having written their own playettes (analogous to Woody Allen's "God: A Play,"where Allen is working from Aristophanes and rewriting for a modern audience), the students are now ready to take Shakespeare's play itself, rewrite it into a modern idiom, using the characters they created for their own playette and the kinds of human silliness and irony they portrayed therein.

As shown in the Support Material, "A Midsummer Night's Dream," Act III, scene ii, lines 137-334 is used. One example from each of the four characters (Demetrius, Lysander, Hermia, and Helena) is used to indicate the re-rendered play.

The students not only create the re-rendering, but also perform it for their fellow classmates.

The Application-Humorous Parody

Finally, to culminate the unit, the students write their own parody of their own play (also presented aloud to their classmates). As seen in the professional parody of "A Midsummer Night's Dream" written by Richard Armour in his *Twisted Tales from Shakespeare*, students come full circle. They are re-acquainted with their philosophy of comedy, with which they began, by parodying their own attempts at comedy, performance of the re-written "A Midsummer Night's Dream" in modern idiom.

Conclusion

The significance to students in the experience of this unit is that they are asked to THINK and to CREATE, both. They do so by understanding Shakespeare more intimately (the Bard is demystified). They also do so by testing the limits of their own understanding of comedy as a concept, then by applying their concepts. Finally, they do so by acting out their own material, thus creating an essential link with Shakespeare, analogous to Woody Allen's link to interconnectedness of all peoples which the study of comedy affords in that comedy speaks to the experience of our humanity, the link among all humans in all times.

Support Material

Shakespeare vs. The Students, "A Midsummer Night's Dream" Re-rendered Act III, scene ii, lines 122ff (excerpted) students rewriting in brackets.

LYS Why should you think that I should woo in scorn? Scorn and derision never come in tears, look, when I vow, I weep, and vows so born in their nativity all truth appears. How can these things in me seem scorn to you, bearing the badge of faith to prove them true? [She's onto me! Even the tears failed. I'm losing my touch. I've got to pull this off. She's so hot!]

HEL You do advance you cunning more and more. When truth kills truth, oh, devilish-holy fray! These vows are Hermia's. Will you give her o'er? Weigh oath with oath, and you will nothing weigh. Your vows to her and me, put into scales, will even weigh—and both as light as tales. [You have more lines than DisneyWorld, you two-faced fraud.]

LYS I have not judgement when to her I swore. [It was dark! I couldn't see her all that well. I was under a lot of stress. It's a vow under duress.]

HEL Nor none, in my mind, now you hive her o'er. [That helps. Now I trust you! Thanks for clearing **that** up.]

LYS Demetrius loves her, and he loves not you. [Your boyfriend's dogging a new bird. He's a loser anyway. Dump the bum.]

DEM O Helen, goddess, nymph, perfect, divine! [Let's not beat around the bush.]
To what, my love, shall I compare thine eyne? [We could make beautiful iambic pentameter rhyme together.]
Crystal is muddy. Oh, how ripe is show. [Crystal is muddy...???]
Thy lips, those kidding cherries, tempting grow! That pure congealed white, high Taurus snow, fanned with the eastern wind, turns to a crow when thou hold'st up thy hand. [I'm not overdoing the flattery, am I?]
Oh, let me kiss! This princess of pure white, this seal of bliss! [My place or yours?]

HEL Oh, spite? Oh, Hell! I see you all are bent to set against me for your merriment. If you were civil and knew courtesy, you would not do me thus much injury. Can you not hate me, as I know you do, but you must join in souls to mock me too? If you were men, as men you are in show, you would not use a gentle lady so—to vow and swear and superpraise my parts, when I am sure you hate me with your hearts. You both are rivals, and love Hermia; and

now both rivals, to mock Helena; a trim exploit, a manly enterprise, to conjure tears up in a poor maid's eyes with your derision! None of noble sort would so offend a virgin and extort a poor soul's patience, all to make you sport. [Do you think you can float that garbage down my river? You're like every man: you only want one thing. You'll be gone when the next skirt comes by.]

LYS You are unkind, Demetrius. Be not so! For you love Hermia. this you know I know; and here, with all good will, with all my heart, in Hermia's love I yield you up my part; and yours of Helena to me bequeath, whom I do love, and will do to my death. [There's an old saying—"Never dump your girlfriend until you're sure you have a new one"—I wrote that. And I will love her until death...er...summer's over...er...through breakfast.]

HEL Never did mockers waste more idle breath. [Right! I suppose you're also selling land in Florida.]

DEM Lysander, keep thy Hermia. I will none. [I got dibs on the nymph. You take the other one.]

If e'er I lov'd her, all that love is gone. [It never really worked between us. I needed my freedom.]

My heart to her but as guestwise sojourn'd, and now to Helen is it home return'd, there to remain. [There's no place like home!]

LYS Helen, it is not so. [I can be trusted.]

DEM Disparage not the faith thou dost not know, [Don't lie, you weasel.]

Lest, to thy peril, thou aby it dear. Look where thy love comes. Yonder is thy dear. [Face it. This one's yours. Don't make me hurt you.]

HER Dark night, that from the eye his function takes, the ear more quick of apprehension makes. Wherein it doth impair the seeing sense, it pays the hearing double recompense. [You know; senses are astounding things!!!]

Thou art not by mine eye, Lysander, found; mine ear, I think it, brought me to thy sound. But why unkindly didst thou leave me so? [Piss me off...]

LYS Why should he stay whom love doth press to do? [The guy's blooming. Let the wind blow the pollen where it will.]

HER What love could press Lysander from my side? [Worship me...kiss my feet!]

LYS Lysander's love, that would not let him bide—Fair Helena; who more engilds the night than all yon fiery oes and eyes of light. Why seek'st thou me? Could not this make thee know. The hate I bare thee made me leave thee so? [Why do I hurt the one I love? a) you leave you nylons hanging in the bathroom; b) you never fill the ice-cube trays; c) all the little things...; d) but mostly she sweats a lot less than you do]

HER You speak not as you think. It cannot be. [Sing "Twilight Zone" music]

HEL Lo, she is one of this confederacy! Now I perceive they have conjoin'd all three to fashion this false sport in spite of me. Injurious Hermia! Most ungrateful maid! Have you conspir'd, have you with these contriv'd to bait me with this foul derision?.... [What a bitch! You're part of this. We shared everything: clothes, books, food, fun. But this is taking it too far. It's a crime against women.]

HER I am amazed at your passionate works I scorn you not. It seems that you scorn me. [My little heart bleeds for you...]

HEL Have you not set Lysander, as in scorn, to follow me and praise my eyes and face? And made your other love, Demetrius (who even but now did spurn me with his foot). to call me goddess, nymph, divine, and rare, precious, celestial?... [You set these up, didn't you, you stuffy little trollop? Of all the low-down, back-stabbing things to do...I hope you shrink even more!]

HER I understand not what you mean by this. [Not that you probably do either...]

HEL Ay, do! persever, counterfeit sad looks; make mouths upon me when I turn my back; wink each at other; hold the sweet jest up. This sport, well carried, shall be chronicled. If you have any pity, grace, or manners, you would not make me such an argument. But fare ye well. 'Tis partly my own fault; which death or absence soon shall remedy. [Go ahead...enjoy the joke...but know I'm not going to stand for it.]

LYS Stay, gentle Helena; hear my excuse, my love, my life, my soul, fair Helena! [She's not going for it! I need my best lines—"Haven't I seen you..."; "Don't I know you..."; "Live around here often?"]

HEL O excellent! [Yea, right. I'm all ears.]

HER Sweet, do not scorn her so. [NICE DRESS!!!!]

DEM If she cannot entreat, I can compel. [My turn, buddy!]

LYS Thou canst compel no more than she entreat. Thy threats have no more strength than her weak prayers Helen, I love thee; by my life, I do! I swear by that which I will lose for thee to prove him false that says I love thee not. [Maybe I should think this through: lawyers? My house? My savings?...How about a pre-nuptial agreement?]

DEM I say I love thee more than he can do. [Subtlety isn't my strong suit.]

LYS If thou say so, withdraw and prove it too. [Hold me back! Let's go outside, you slime.]

DEM Quick, Come! [Now I'll have to hurt you.]

HER Lysander, whereto tends all this? [This is some waste of energy.]

LYS Away, you Ethiope! [Back off, witch.]

DEM No, no, sir! You / Seem to break loose [Only kidding. I don't really want to fight you.]
Take on as you would follow, / But yet come not. [Play along. Make me look macho. Please?]
You are a tame man, go! [Take the hint; back off; please don't hurt me!!]

LYS Hang off, thou cat, thou burr! Vile thing, let loose. Or I will shake thee from me like a serpent! [Would you get your scaly claws off me?]

HER Why are you grown so rude? What change is this, sweet love? [Had a bad day? A little under the weather?]

LYS Thy love? Out, tawny Tartar, out! Out, loathed med'cine! O hated potion, hence! [How can I miss you when you won't go away?]

HER Do you not jest? [You were always kind of a peon anyway...]

HEL Yes, sooth! And so do you. [Listen my little chickadee, take the hint.]

LYS Demetrius, I will keep my word with thee... [It's a deal.]
What, should I hurt her, strike her, kill her dead? Although I hate her, I'll not harm her so. [She ain't worth jail. You'll just have to trust me on this one.]

HER What, can you do me greater harm than hate? Hate me? Wherefore? O me! What news, my love? Am not I Hermia? Are not you Lysander? I am as fair now as I was erewhile.... [Are you an idiot?]

LYS Ay, by my life! / And never did desire to see thee more [Don't you take a hint? This is it! I'm dumpin' you. Adios...Take a hike...Get lost...See ya.]

HER O me! You juggler! You canker blossom! You thief of love! What, have you come by night and stol'n my love's heart from him? [What's a canker blossom?]

HEL Fin, i'faith! Have you no modesty, no maiden shame, no touch of bashfulness? What, will you tear impatient answers from my gentle tongue? Fie, Fie! You counterfeit, you puppet you! [Have some pride! Don't grovel in front of him. Climb up off the ground and stand tall—Oh, you are standing!]

HER Puppet? Why so! Ay, that way goes the game. Now I perceive that she hath made compare between our stature; she hath urg'd her height, and with her personage, her tall personage, her height (forsooth), she hath prevail'd with him. And are you grown so high in his esteem because I am so dwarfish and so low? How low am I, thou painted maypole? Speak! How low am I? I am not yet so low but that my nails can reach unto thine eyes. [Yeah, I'm just thankful I don't have bit lips! You just wait, honey: I'm drinking milk!]

HEL I pray you, though you mock me, gentlemen, let her not hurt me. I was never curst; I have no gift at all in shrewishness; I am a right maid for my cowardice. Let her not strike me. You perhaps may think because she is something lower than myself, that I can match her. [Let me at her—I really would like to rip her limb from limb.]

HER Lower? Hark again!.... [At least my head isn't lost in the clouds!]

HEL O, when she is angry, she is keen and shrewd! She was a vixen when she went to school; and though she be but little, she is fierce. [Yeah, a true lion...grrrrr.]

HER "Little" again? Nothing but "low" and "little"? Why will you suffer her to flout me thus? Let me come to her. [Yeah, yeah—bring her in. I'll bite her ankles]

LYS Get you gone, you swarf! You minimus, of hin'ring knotgrass made? You bead, you acorn! [You are a mental midget. Don't let the door hit you in the bottom.]

DEM You are too officious
In her behalf that scorns your services.
[It's obvious she thinks you're peasant scum.]
Let her alone. Speak not of Helena;
[Back off you creep.]
Take not her part; for if thou dost intend
Never so little show of love to her,
Thou shalt aby it.
[I wouldn't give up for all the pairs of tight in England.]

Let Them Speak

Abstract

This class activity is designed to develop oral proficiency in a foreign language class, at any level. The students engage in a conversation with the instructor ten times each quarter, during or not during class time. The stress level is low because the conversation is privately held, and because the grade depends only on the number of conversations. The activity builds up the confidence of the students and generates enjoyment for the students and the instructor.

Introduction

One of the primary goals of foreign language teachers is to develop oral proficiency. This, sometimes, seems difficult because of large classes and the little time available for individual attention.

In my classes, many activities are geared toward this goal: choral work, small group conversations, interviews. I assess oral skills by grading a cassette the students do at home. (This is, by the way, an idea I picked up from a Cooper Foundation award winning project). For the past two years, with this same objective, I developed and tried an activity that more than fulfilled my goal.

I am submitting this project because it helps:

1. to develop oral proficiency in a natural setting
2. to build up the student's confidence
3. to give personal attention to students in a relaxed atmosphere
4. to prepare for oral tests
5. to extend time-on-tasks

Description

The student must engage in a conversation with the instructor ten times during each quarter. He chooses among a list of topics distributed at the beginning of the quarter, each topic corresponding to an activity done in class. This conversation may happen in or outside the classroom, but should never interrupt a lesson. Each conversation is worth 5 points, and no more than 10 points may be earned per day. When the conversation is finished, the student presents his sheet to the teacher who stamps and dates it. He turns in his sheet after the tenth conversation or at the end of the quarter.

Please see support material to have an example of conversations held during the first year of French.

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Beatrice High School
Beatrice, Nebraska

Bernadette Korslund holds a "license en Droit" (Law degree) from the University of Clermont - Ferrand (France) and a Master's Degree from the University of Nebraska - Lincoln. She has been teaching French at the Beatrice High School for the past 5 years.

Bernadette is actively involved in her profession; she is past secretary of the Nebraska Association of French Teachers and is a member of the Nebraska Cadre Task Force for Foreign Languages. She has presented or organized workshops on methodology and French civilization.

During the summers, Bernadette has enjoyed taking students on trips to Canada and to France.

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Objectives

In this activity my primary objective is training rather than evaluating: I want to develop good habits and confidence in the beginner students.

I. The development of oral proficiency is done through two different techniques.

a. The student takes the initiative in speaking. In a typical classroom, little initiative is given to the students: They rarely start a conversation with the teacher but answer briefly personal questions. They wait passively for the teacher to start a conversation, and probably many feel lucky if they are not included in this conversation. In this activity, the grade depends only on the number of times the students take the initiative of the conversation with the teacher. Certainly, the teacher gives encouragement but the sole initiative reposes on the student.

b. The student becomes a questioner rather than an answerer. Unfortunately, too often the in-class conversations are going one way: questions from the teacher, answers from the student. Often a yes or no suffices, without the teacher knowing if the answer has been truly understood. The student rarely asks follow-up questions to feed the conversation. This does not reflect what would happen if the student were in a foreign country, trying to get along on this own: he would have then to become an inquirer. The fifteen conversation topics present a good balance of questions and statements.

II. The student gains confidence in his oral skills. Each topic of conversation is task oriented and emphasizes what the student is able to do. The student gains confidence by realizing he is developing a new skill. I always try to find topics reflecting real life situations, hoping to encourage the student to travel to the foreign country if he realizes he can manage everyday situations.

III. Personal and undivided attention is given by the teacher to the student. The conversation is always done on a one-to-one basis. The student never speaks in front of the classroom. I start most of the conversations with the wonderful French handshake; this short body contact is a true ice-breaker. The student sees me then as a French person rather than a teacher; this custom transports him for a short while to a foreign land; this shortens physically and emotionally the distance between the two speakers.

The conversation is done in a non-threatening atmosphere: The student does not work under the pressure of getting a good grade. Whatever and however he does, he will get 5 points for trying out. I never correct the student directly; if necessary, in my answer I will pronounce or formulate correctly what was defective in the question.

IV. Preparation for other oral tests. This training will become very useful when the student is tested for his oral proficiency such as for a placement test at the college level or job interviews. The student will feel confident he can handle a conversation in the foreign language. He will have done it at least ten times each quarter.

V. Extension of the time on task. These conversations may be done in class; this encourages the students to take advantage of the few last minutes at the end of the period to earn 5 points by talking to me rather than to be idle. On many occasions, the students arrive early in the classroom, before the bell, or stop by the classroom at the end of the day to talk to me.

I feel this activity allows me to utilize to the maximum the fifty minutes of the period and on many occasions has given me contact with the students outside class time.

Suggestions to make this activity successful

1. How to prepare this activity.
   a. list fifteen topics from which the students will choose ten.
   b. Each topic should include a greeting and a lesson reference.
   c. the list should be typed on brightly colored paper to minimize the risk of loss.

2. How to conduct it. I use the same techniques used by the ACTFL interviewers during the oral proficiency testing.
   a. Warm up. From the beginning, I try to relax the student. I forget I am a teacher. I act as a person meeting another one in a Parisian street. I try to have good eye contact, I shake hands, I call the student by his first French name and I smile. I don't frown at mistakes.
   b. Fueling the conversation. Although the student's task is short, the activity does not stop at its completion. I take the opportunity of this tete-à-tete to develop oral comprehension. I review other topics and I lead in to new topics using cognates and the hand gestures a native would use to be understood. I congratulate students for any extra-curricular accomplishments I know of.
   c. Winding down. I finish by returning to a level the student is comfortable with. I never leave him with a taste of failure he could get if we separate on a misunderstanding. I close on a positive note, a smile, a hand-shake or a pat on the back.

Conclusion

I submit this project to the Cooper Foundation because I would like to share it with many foreign language teachers. The many advantages of this project have been already stated.

This project is highly adaptable to any language. The support material provides a quarter of oral communication for any language at the beginning level. (Just change the book reference)

This project may be expanded to any level. I just make the conversations longer and more sophisticated. And when the students are able to converse longer, transform the dialog into class reports.

This activity conveys a very important message: That foreign language is used to converse (not always evident to students who take it only to fulfill a college requirement). Oral communication is important. It counts toward the grade like any written test. It is a social skill, fun and useful. It brings together individuals and it allows them to share information.

Support Material

PRELUDE
Nom _____
50 points

ORAL COMMUNICATION

Du: le 30 Octobre

During this quarter, you will engage in a conversation with your French teacher 10 times. Any time and any place is acceptable, but never interrupt a lesson. Each conversation will earn you 5 points. You cannot receive more than 10 points a day. Choose among the 15 topics listed here. When the conversation is finished, present this sheet so your teacher can stamp and date it. At the end of the quarter, turn in your sheet. **Don't lose it or no credit can be given.**

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15

1. Greetings - (Prelude 1) Tell me hello and good-bye.
2. Greetings - (Prelude 1) Shake my hand and tell me hello.
3. Inquiring about health and feelings (Prelude 2) Ask me how I am doing. Say good bye.
4. Identify (Prelude 2) Introduce yourself. Ask me my name.
5. Asking price (Prelude 3) Say hello and ask me how much a certain item costs. Use please and thank you.
6. Telling price (Prelude 3) Ask me how I am doing and tell me the price of one item. Say good bye.
7. Asking the time (Prelude 4) Ask me how I am doing and ask me the time. Use please and thank you.
8. Telling time (Prelude 4) Ask me how I am doing and tell me at what time is a certain event.
9. Asking date (Prelude 5) Tell me your name and ask me when is my birthday. Use please and thank you.
10. Telling date (Prelude 5) Tell me your name and tell me your birthday, or your friend's birthday. Tell me good-bye.
11. Asking for the weather (Prelude 6) Greet me and ask me how the weather is in France at a certain time of the year.
12. Telling the weather (Prelude 6) Greet me and tell me the weather of today.
13. Speaking about oneself (Unit 1, lesson 1) Ask me how I am doing and tell me where you live.
14. Speaking about oneself (Unit 1, lesson 1) Ask me how I am doing and tell me what languages you speak.
15. Bragging about oneself (Unit 1, Lesson 1) Greet me and tell me about two activities you do well. Tell me good bye.

Mexican Traveling Trunks

Abstract

In our interdependent world today, becoming proficient in a language and learning about other cultures have become increasingly important. The Mexican Traveling Trunks provide culturally authentic materials to students K-12 in Western Nebraska. Manipulating realia motivates the students and makes language instruction relevant. In addition to providing a culturally authentic, experience-based approach to learning Spanish, these authentic supplementary instructional materials may be utilized in the classroom to enhance the curriculum for students of social studies and art.

Rationale

Mexican Traveling Trunks came about in response to the distance, isolation, and budgetary restrictions experienced by teachers and students in Western Nebraska. Many of the schools, and thus foreign language departments, are small and located far from available culturally authentic material and resources. Furthermore, many of the teachers in these small districts have other teaching assignments in addition to Spanish; some are still working toward certification in Spanish. Consequently, many have neither the time nor background necessary to collect materials and create activities. Moreover, most school districts, large and small, in Western Nebraska struggle with budgetary constraints. Hence the traveling trunks have supplied a much needed, economical means to provide culturally authentic materials to students K-12 throughout Western Nebraska.

Narrative

After advanced planning, we traveled to Mexico to collect authentic materials. We then integrated the materials into classroom-ready packets designed to actively involve the students in oral and written language acquisition. We discovered that much of the realia could be beneficial at a variety of levels for several different subject areas. We therefore produced materials for art, social studies, and elementary classes in addition to K-12 Spanish courses.

In addition to creating an experience-based approach to learning language, the 120+ activities were designed to make students aware that other people view the world differently, to foster an acceptance of differing perspectives, and to create an awareness and deeper understanding of Mexican culture since there is a large Hispanic population in Western Nebraska. In our interdependent world today, becoming proficient in a language and learning about other cultures has become increasingly important. Manipulating authentic realia motivates the students and makes language instruction relevant. Our goal, consequently, was to develop and circulate authentic supplementary instructional materials to be utilized in the classroom to enhance the curriculum for students of Spanish, social studies, art etc.

The materials are disseminated through area educational service units to Western Nebraska schools by means of "Traveling Trunks" Each "Mexican Trunk" is targeted at a specific subject area and/or grade level. At the beginning of the school year, we conducted workshops for area teachers to acquaint them with the contents of the trunks and to demonstrate possible means of implementation. From the evaluations we have received, the Mexican Traveling Trunks have proven a successful, effective, mobile method of providing culturally authentic materials to a variety of school districts and grade levels.

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A graduate of Chadron State College, Patricia Randolph has taught Spanish for 20 years. Presently she teaches Spanish at Scottsbluff High School. She is a Rockfeller Fellowship recipient and currently serves on the Nebraska Foreign Language Task Force. In addition, she is Secretary of the Nebraska Foreign Language Teachers' Association.

Roberta Slaughter
Big Springs High School
Big Springs, Nebraska

A graduate of Kearney State College, Roberta Slaughter has taught Spanish and French for 17 years. Currently she is employed by the Big Springs School System where she also serves as facilitator for the SERC Japanese Program. Since moving to Ogallala six years ago, she has served on the Nebraska Foreign Language Task Force and is presently President of the Nebraska Foreign Language Teachers' Association.

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In our supplementary materials, we employed the title of our project to form an acronym which gives examples of the activities included in the trunks and further highlights our purpose and methods. The varied activities teach, review, and/or reinforce vocabulary and grammatical concepts in Spanish, illustrate and explain cultural views, and encourage individual creative expression.

The concept of a "traveling trunk" could be replicated by any school district or ESU. The benefits far outweigh the effort and expense required to create and organize the materials. The same basic activities and directions could be applicable to most school situations, but they are most effective when supported by authentic realia. We are willing to duplicate more specific directions upon request.

The Mexican Traveling Trunks have given an opportunity to the foreign language teachers of Western Nebraska to provide a culturally authentic, experience-based approach to learning Spanish. Yet the materials have not only benefitted foreign language teachers, but all teachers who focus on developing multicultural understanding to eliminate stereotypes and misconceptions, helping students realize that being different is not necessarily negative. Mexican Traveling Trunks have truly proven to be Mexican Traveling Treasures which have culturally enriched the classrooms of Western Nebraska.

The Mexican Traveling Trunks have given an opportunity to the foreign language teachers of Western Nebraska to provide a culturally authentic, experience-based approach to learning Spanish.

Support Material

Mexican Traveling Trunks

The Mexican Traveling Trunks contain about 130 cultural units for elementary/junior high/high school in the areas of art, social studies, and Spanish language acquisition. The following are examples of actual units and activities found in the trunks.

M **Markets** In Mexico, there are the typical Mexican markets ranging from craft markets to everyday markets. Here, bargaining is a time-honored custom. When buying from a vendor start by offering half the asking price and aim to buy at about three fourths. Bargaining should not be treated as a life-and-death matter, but as an enjoyable experience while arriving at a fair price.

Activity - Market Simulation

Two students select a business to run. Each brings or makes props for the business. Spanish play money is distributed to the businesses and townspeople. The students then act out "our Spanish town" as they transact business using only Spanish.

E **Energy to Gather Materials** When you travel, pick up all "freebies." Write to such places as McDonald's to obtain things such as a McPollo tray mat.

Activity - McPollo

Everyone loves McDonalds. Look at the McPollo ad. Do any of the words look familiar? Try to guess the English translation of as many words as you can.

X **Xtra Activities** Students enjoy doing activities that are related to the culture and interesting. One cannot learn a language without studying people and culture of that language.

Activity - Prices

The following are current prices in a supermercado. They are given in pesos and the current rate of exchange is 3,000 pesos to the dollar. From the following list choose five items you wish to buy and figure out the cost in American currency.

Trix cereal - 18,000 pesos
cookies - 8,000
crackers - 3,410
Rib eye - 18,900
dozen eggs - 2,250
oranges -3,990
pop - 1,400
potato chips - 4,560
watermelon - 2,250

I **Innovative** Typical souvenirs purchased at the pyramids of Teotihuacan are replicas of flutes decorated with the heads of gods. These gods include god of the sun, god of the moon, Quetzalcoatl (main god), god of love and god of fire.

Activity - Gods

Using femo (a type of clay - consult your art teacher for this material) create your own god and write a story about your god.

C **Creative Expressions** Study the pictures which illustrate typical elements of Mexican architecture. The typical Mexican home usually includes a barda surrounding the house, a patio in the center of the home, rayas on the windows, and red tile roofs.

Activity - Mexican Town

The students can use their imaginations and create their own Mexican casa. They can then create their own Mexican town with cereal boxes and milk cartons that are covered with paper and decorated to resemble buildings. Students can then use a large table covered with paper to draw in streets, plazas, parques, etc. This activity is an excellent way to learn the names of buildings and how to give directions.

A **Art Projects** There are many arts and crafts which are typical to Mexico. Today in Mexico, amate art, paintings on brownish bark paper, flourish as a typical folk art. Pastoral designs or scenes from Mexican legends are depicted on bark paintings. The paper is made from the inner bark of two types of trees, the mulberry and wild fig.

Activity - Amate Art

Look at the examples and using a brown paper sack with watercolor paints create your own amate painting.

N **Never Throw Anything Away** Newspapers make excellent tools for instruction in culture and language.

Activity - Movies

Look through the enclosed movie ads and answer the following questions:

1. What movie titles do you recognize?
2. Translate the titles of two other movies.
3. Pick a movie. Where is it showing? How many times per day and at what times is it showing?
4. Design a movie ad - include the title, main actors, name and location of the movie theater, and the time shown. Feel free to be creative and add slogans.

T **Travel within the Classroom** Sombreros are wide brimmed hats worn in Mexico serving as protection from the hot sun. The plain straw sombreros are seen on men when they are hard at work in the fields. Elaborate sombreros of velvet, colored embroidery and braid are seen on charos and mariachis.

Activity - Sombreros

Design your own sombrero. The container for Leggs nylons can be used along with poster board, markers, crayons, paints, sequins, trim glitter and fabric.

R **Relevant** It is very interesting to write to a pen pal in a foreign country. Lasting friendships can be made as well as much information gained about the country.

Activity - Pen Pals

Enclosed is a section from the telephone directory in Cuernavaca. Select a name and write a letter to that person. This letter must be written in Spanish if you are in a Spanish class. Tell the person about yourself, your family, the town you live in, your state, and country. Ask the person to write a letter to you, and then just wait. You could make a new foreign friend.

A **Access** Contact travel agencies, embassies, consulates, and schools for information, brochures etc.

Activity - Plan a Trip

Look at the enclosed brochures. Plan a detailed itinerary for a ten-day trip through Mexico. Include the cities you wish to visit with information concerning the places of interest located there, the amount of time allotted for each stay, means of transportation, and approximate cost.

V **Versatile** The units are interdisciplinary. All may be used in Spanish classes, but they also apply to history, art, and even math.

Activity - Peso

Read the enclosed information concerning the peso. Make a list of the famous people who appear on the coins and indicate what they were famous for. What are some tips about exchanging money? At the rate of 3,000 pesos to the dollar, convert the following amount of pesos to American currency: 1. 5,342 2. 150,243 3. 3,952 4. 12,379 5. 367,521

E **Every Level** In Mexico, there are many murals painted on buildings of importance. These murals represent public art, but they are also instruments of social change. Many of these artists are political activists who express their beliefs in these murals. Also these murals depict significant events in history. In the National Palace, there are murals which depict the entire history of Mexico.

Activity - Create a Mural

Read the information and look at the examples. In your group, create a mural depicting an historical event or a strong common belief.

L **Laugh and Enjoy** Children everywhere love toys. In Mexico, you can find toys very similar to those found in the United States, particularly an abundance of plastic toys. There are, however, toys which are typically Mexican. These include baleros (a popular game of skill), piriinolas (tops), and munecas (dolls). Cartoon characters that are popular in the United States are also popular in Mexico.

Activity - Toys

Enjoy playing with these Mexican toys and listening to Tortugas Ninjas in Spanish.

I **Inexpensive** Inexpensive realia can be found in a variety of places such as a used book store with old Christmas catalogs for 1800 pesos each.

Activity - Shopping

It is time to make your Christmas shopping list! Select ten people you need to buy gifts for. Look through the Sears catalog and choose gifts for these people. Write the Spanish and English names for the gifts you choose and the prices in pesos and dollars.

N **Novelties** The native people make masks of figures and animals for rituals and ceremonies. Some represent ancient gods. The masks are made from wood, tin, clay or woven from straw. San Luis Potosi is famous for its tin masks. Today many of these masks are sold in markets.

Activity - Make a Mask

Look at the examples of masks. Create your own mask and write an explanation of its symbolism.

G **Games** Loteria or Bingo is a traditional Mexican game. It is excellent to use for reviewing vocabulary. Balero is a traditional game of skill usually made in wood and decorated in bright colors.

Activity - Make a Balero

To create your own balero, make a small hole in the bottom of a styrofoam cup. Put a string through the hole. Tie a knot on one end of the string and attach a paper clip. Then decorate the cup. The object of the game is to toss the suspended paper clip into the cup.

T **Trivia** Culture capsules are brief cultural trivia explanations. Students find these bits of information very interesting.

Activity - Cultural Capsules

Read the following culture capsules and write your own interesting bit of trivia about your city, state or country. Children in Mexico (especially the rural areas) eat a popular sandwich — jumiles on a tortilla. Jumiles are small insects much like cochroaches that are eaten alive. They are eaten alive because alive they are a source of iodine which is often lacking in the diet of the poorer Mexicans.

R **Realia** The use of authentic materials make learning much more relevant and interesting.

Activity - Supermarket Ad

Read the enclosed ad and answer the following questions: 1. Compute the regular and sale prices of the advertised products in American currency. 2. Which items are more expensive and which are less expensive? 3. Choose five produce items you frequently purchase. List the names of the produce and compute the price in pesos and American currency.

U **Unique Yet Universal** There are several items that are unique to Mexico such as sombreros, sarapes, adornos, etc. However, in Mexico, one can also find items that are popular throughout the world. For example, one can find comic books, greeting cards, and even Ninja Turtles.

Activity - Greeting Cards

Look at the enclosed greeting card and answer the following questions: 1. For what occasion is this card suited? 2. Is this a typically Mexican holiday? 3. Translate the message. 4. Where was this card printed? 5. Create your own greeting card.

N **Native** The native Indians are part of the Mexican population. Their cultures contributed much to the culture of Mexico. The Aztecs and Mayans are particularly significant to the development of Mexico.

Activity - Laminas (information sheets used in place of books in the public school classrooms.) Read the enclosed laminas and from this information write a detailed summary in English about the Cultural Azteca and Maya.

K **Kaleidoscope** - In Mexico, the people celebrate holidays such as Christmas, Easter, and Columbus Day. There are, however, several holidays which are typically Mexican such as Day of the Dead. This holiday is when people fill the graveyards with flowers, candles and food to honor their dead.

Activity - Day of the Dead

Read the enclosed information concerning the Mexican view of death and their celebration of Day of the Dead. Then answer the following questions: 1. Compare the Mexican view of death to the American view of death. 2. What do you feel about the Mexican view of death and their celebration of the Day of the Dead?

Slides and Pictures In Mexico, one can find the old and new. A variety of small specialized shops can be found along the city streets. In contrast to these small shops, one can now find in the cities and tourist centers, large malls similar to those found in the United States. In addition there are the typical Mexican markets ranging from craft markets to everyday markets. In these markets, bargaining is a time honored custom.

Activity - Elementary Store Unit

Look through the pictures of stores and find the answers to the following questions:

1. What can you buy at a Panificadora?
2. What can you buy at Ba_os y Plomeria?
3. Can you guess what is sold at a Farmacia?
4. What is the name of your dentista? How is the office of your dentista different from the one in the picture?
5. Why would you go to a Loncheria?

Building Castles in the Curriculum

Abstract

A focus on the medieval experience of England and France gives students a historical understanding of their own culture and environment. This is a thematic approach to teaching foreign language (French) and the required third grade elementary curriculum. Writing and producing a time-appropriate play, building a castle, preparing authentic foods and "meeting" men and women of the time are some of the student-centered activities. A mini-immersion into the time period results in a medieval feast of successes.

"Every word, every expression we used has a cultural dimension." *-Ross Steele*

Introduction

When students learn, it is important for them to see how their experiences today have been shaped by history. Because of the attractiveness of legendary feudal life, this period of time becomes a natural catalyst for the integration of foreign language instruction into the classroom disciplines. This approach adds the "joie de vivre" to an otherwise "paper and pencil" curriculum. Using this common thread, we observed students applying their knowledge beyond the classroom walls.

I. Laying the Foundation of the Castle

The corner stone of the year-long project is saturating the students with information. This was accomplished through literature, filmstrips, videos and posters. These are all available through school media centers, local libraries, educational service units, and /or instructional catalogues. In addition, the teacher-team outlined life between the years 500 and 1500 in Western Europe. Focus was given to the following people:

Charlemagne, Jeanne d'Arc, King Louis IX of France and Henry III and IV of England,

and to the following events:

The Black Plague, the legendary siege of Carcassone, France, the Crusades and the Hundred Years War.

A list of resources is included as support materials. After the students were familiar with this information, they were ready to take a journey into the past.

II. Living as a Knight

The walls of Belmont School were transformed into a feudal fortress with the following Activities:

1. Students developed a personal coat of arms and motto. While developing the shield, they recognized actual symbols of the time. An example is the fleur de lys.

2. Students became aware of the geography of the time period through map drawing. In the foreign language classroom, this activity was enhanced by following directions for map completion in French.

Cecilia Ruley
Belmont Elementary
Lincoln, Nebraska

Cecilia is a native Nebraskan. She received a B.A. from Dana College and an M.Ed. from UN-L. She currently teaches French at Belmont Elementary School in Lincoln, and was a recipient of an American Association of French scholarship for extended study in Avignon, France. Cecilia is a past president of the Nebraska Foreign Language Association.

Richard Carpenter
Belmont Elementary
Lincoln, Nebraska

As a teacher, Nebraska-native Richard Carpenter is new to Nebraska schools but is a veteran of ten years in the profession. Richard received his B.A. and M.A. from the University of the Pacific in Stockton, California, and spent nine years as a bilingual teacher in the elementary schools of that state. This is his third year with Lincoln Public Schools and at Belmont Elementary.

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3. Students developed a classroom management system based on the medieval code of chivalry with knighthood as the ultimate goal (the form outlining the actual process is attached). The culminating event was an actual bilingual knighting ceremony attended by teachers, students and family members of the honored student.

4. Students learned time-appropriate vocabulary and meanings in English and in French. Examples include: knight, castle and its parts, king, queen, peasants, clergy, flags and cathedral.

5. Students applied their mathematical concepts to create a castle blueprint drawn to scale.

6. Students used the new vocabulary to practice written expression in both languages. For example, in the third grade classroom they added prepositional phrases to simple sentences about the Middle Ages. In the French classroom they used the target language vocabulary to describe their castle blueprints.

7. Students planted a medieval herb garden as a Science project. Gardening terms and plants were described in both languages.

8. Students became familiar with architectural conventions of the period. Via slides, pictures and discussions of Notre Dame, the gothic cathedral was explored. Because the cathedral was the spiritual and social center, Victor Hugo's *The Hunchback of Notre Dame* was included. Students were able to identify parts of the cathedral, occupations of the time, religious and civil ceremonies, social classes and community pastimes.

III. Life Outside the Castle Walls

Our crusading knights were now ready to create their own chivalrous adventures through the medium of the stage. Incorporating information from the previous activities, the class created a play of French historical fiction. The plot revolved around the Black Plague. The following steps were implemented:

1. Brainstormed ideas to be included.

2. Read examples of existing plays and discussed their common characteristics.

3. Practiced writing dialogue.

4. Broke into cooperative learning groups. Each group was responsible for one rough draft of a plot with dialogue in English and French.

5. Selected an editing committee to work with the teacher team. This group read and extracted the best from each rough draft.

6. Combined the extracted parts to compose one play with one plot in rough form.

7. The rough draft was submitted to the entire class for editing and discussion.

8. Evaluated the product. This was done by the teacher team.

9. Presented the final product to the class for approval.

10. Selected actors, crew members and set-designers.

11. Began a six-week production schedule.

    As part of the schedule, students were responsible for designing costumes, building a set, collecting props and advertising. Because food and the plague were closely connected, this became a perfect opportunity to introduce and prepare period French foods—"Poulet du Cloister," anyone? From its inception to conclusion, the success of this drama depended on the total involvement of each student, regardless of their identified abilities.

The day of the performance was electric! With picnic baskets, blankets and camcorders in hand, parents arrived. It was obvious that the audience was as excited as the actors and crew. For a short while all were transplanted into a different place and time.

IV. The Castle's Future

Like the Chateau d 'Amboise on the banks of the Loire River, no castle has survived without change. This project too, could be expanded or adapted. Upon evaluation of our successes, the following additions/modifications could be made:

1. The study of how today's chemistry is influenced by medieval alchemy.

2. Because of the great value placed on books, the study of handwriting, calligraphy and the reproduction of jeweled book covers.

3. The involvement of the music specialist in the introduction of music, changes and instruments of the time.

4. The involvement of the art specialist in the study and creation of stained glass. A field trip to a local stained glass artist would also be an appropriate inclusion.

5. The involvement of the Physical Education specialist in teaching and leading period games such as "Ring Around the Rosie."

6. The study of the horse and its importance during this time. In the foreign language class, one could include units on animals and body parts.

7. In French class, the teaching of clothing vocabulary through the ceremony of dressing the king or queen. This would be an opportunity to use Total Physical Response (TPR) methodology.

8. The planning and preparation of an "end-of -the-year" medieval feast. This gala would bring closure to the year and theme on the last day of school.

9. Construct a miniature castle out of sugar cubes.

V. Closing the Drawbridge

Even though we no longer live behind castle walls, isolated from the rest of the world, we are still products of the past. By adding the culture dimension that Ross Steele referred to into our school day, we witnessed 25 third graders bring excitement and meaning to their learning.

"All year long I learned about how people lived and the history of the Middle Ages. We learned how to experience how it was like to become a knight. I think I learned lots about the Middle Ages. We even had a play about the Middle Ages! I love every bit of the way."

Scott Haydon
1990-91 Belmont Third Grader

Resource List

Books Used:

- De Angeli, Marguerite, *The Door in the Wall.*
- Schnurnberger, Lynn Edelman, *Kings, Queens, Knights and Jesters Making Medieval Costumes.*
- Conway, Lorraine, *The Middle Ages: Castles, Kings and Knights in Shining Armor.*
- Aliki, *The Medieval Feast.*
- MacCauley, David, *Cathedral; Castle.*
- Round, Graham, *Welcome to France*, Passport Books, 1979.
- *Chambord for Children*, Mila Editions, 1987 ISBN. 2.907241.00.1
- Martin, Mary, *Masterpieces Coloring Book*, Running Press, Philadelphia, PA., 1981 ISBN 0-89471-141-5
- Various travel guides for information on selected monuments and cities are available.
- Our school media specialist also acquired a box full of books from all over the district (Lincoln Public Schools) allowing us to fill the classroom library with books concerned with our theme. We were allowed to keep the books in the classroom for a month.

Films/Videos Used:

- *Frere Jacques* (Story of the medieval friar of song game)
- *Hunchback of Notre Dame*
- Welcome to France
- *Castle* (A video created by David MacCauley about his book)
- Video tapes may also be rented or borrowed from travel agents.

STEPS TO BECOMING A KNIGHT

- Turn in ten citations (A citation is a good deed/appropriate behavior award)
- Memorize the word, "chivalry."
- Choose a good deed to complete: (This deed would improve the school or classroom and the page's reputation.)

_____

_____

A guiding adult who will help you organize and accomplish your deed:

_____

- Squiring Ceremony
- Date you completed your chosen deed with adult signature:

Date:_____

Signature:_____

Comments by adult:_____

_____

- Choose a motto:

Explain why it was chosen:_____

_____

- Academic (grades) check:

Reading___	Science___	Music___
Math___	Art___	P.E.___
Language___	Health___	French___
Spelling___	Social Studies___	Computer___

- Have you been placed on an academic or behavior contract?

  Yes or No

  If yes, explain situation:_____

  _____

  _____

  _____

  Teacher Signature:_____

- Knighting Practice

  Your Guardian of your Coat of Arms_____

  Your Best Friend_____

- Spend a night with your Coat of Arms.

- Your Knight Date:_____

  Congratulations Sir_____!

Map Skills Latitude and Longitude

Grade: 4 and 5

Abstract

I have submitted a geography unit that teaches the concepts of latitude and longitude. Cantaloupes and melons are used for demonstrating lines of latitude and longitude and a cake is utilized for locating treasure coins that were buried under the frosted grid. These are two examples of interesting, motivating learning which is active. The assessments for the unit need not be paper and pencil tests, rather the same strategies may be used as performance demonstrations.

Background

Curriculum improvement is the focus of the activity that I have selected for my 1991-92 Cooper Foundation Award application. Too many times in elementary classrooms, geography concepts are merely taught with a textbook orientation. The examples that are described in this unit are manipulative, hands-on, and developmentally appropriate activities.

I have developed and implemented a map skills unit that specifically addresses the concepts of latitude and longitude. This unit could be used in conjunction with any textbook and would be congruent to most 4th and 5th grade curriculum requirements for map skills.

The covert and overt instructional activities are designed to influence motivation and enhance retention. My activities were designed to provide mastery of map skills as well as enjoyment in using a variety of maps. A variety of visual stimuli are evidenced in the classroom. A large, blue treasure chest, lined with blue taffeta, overflowing with beads, seashells, colored coins, and books is the center of attention. Anchored next to the chest is a blue wooden boat beached under a six-foot "poet-tree".

In this unit the learner will:

a. Define the frames of reference (latitude, longitude, equator, lines of meridian, Prime meridian, and international date line).
b. Be able to locate the frames of reference on various maps and globes, as well as on the designated activities.
c. Analyze why reference points are important.
d. Synthesize situations in which knowing latitude and longitude will help specific persons who are lost.
e. Evaluated the success or failure of locating the treasure coins in a cake and locating treasure chests buried on the playground.
f. Apply knowledge gained from the demonstrations and activities to other maps and globes.
g. Show increased motivation by participating in the demonstrations and activities and provide authentic assessments.

Throughout the unit computer programs were used to reinforce map reading skills.

Sandra Dahlkoetter
Stanton
Elementary School
Stanton, Nebraska

Mrs. Dahlkoetter, the fifth grade teacher at Stanton Elementary School, is the past recipient of two Cooper Foundation Awards and a Peter Kiewit Award. Mrs. Dahlkoetter graduated from Wayne State College. She and her husband Terry have three children. The Dahlkoetters reside in Stanton, Nebraska.

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Initiating Activity

The necessity of using reference points to find an exact location is evidenced in this initiating activity. Students will be given a blank map with one point on it marked "treasure". They will be given five minutes to go out on the playground and use the map to find the buried treasure.

After searching to no avail, students will brainstorm why it was so hard to find the treasure using the blank map.

(There were no reference points on the blank map, directions, compass rose, or legend.)

Latitude and Longitude

Write the words latitude and longitude on the board, using mnemonics.

↑atitude ↑ongitude

Latitude lines are like a ladder telling how far up or how far down. See how many steps North or South the instructor moves.

State that longitude lines are long and tall like a telephone pole; they will tell how far East or West one travels.

The students will utilize individual classroom globes to:

1. Locate the North and South Poles and the Equator.
2. Point out the Greenwich Prime Meridian and explain that this is the designated line of reference connecting the two poles.

Practice and Review of Latitude and Longitude Lines

The students will show with their arms lines of latitude

and lines of longitude.

Signals are also given to show what kind of line the equator is

and to show what kind of line the prime meridian is.

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These then may be mixed and practiced with the students for an informal evaluation to check understanding.

1. Give each group a cantaloupe or small melon, one knife, and newspapers to put waste and rinds on.
2. Students will be instructed to hold it so that the lines on the cantaloupe are showing longitude. One person in each group is to trace the equator with his/her finger. The others check to see if that is correct. After locating reference point, cut along the equator. What do you have now? (two hemispheres) What does hemi mean? (half) Which two hemispheres do you have if you cut on the Equator? (North and South)

Cut other lines of latitude:
Tropic of Cancer
Tropic of Capricorn
Antarctic Circle
Arctic Circle

Now students may eat a line of latitude.

Latitude and Longitude Walk-on Practice

1. Tape latitude and longitude lines on the gym floor with masking tape. Index cards with degrees on them are also taped on the edges. Students are divided into groups of three. Each group needs to appoint one person as the point. The teacher has prepared index cards with specific locations written on them (for example: 20 degrees North Latitude and 15 degrees East Longitude). After drawing their card, the group comes to a consensus where the point will stand on the grid-marked floor. They move to the location and the point raises his or her right hand when ready to be checked. A different group of three come over and check this location for accuracy.
2. The next day, the teacher doesn't have the locations written on cards. Groups will listen for oral longitude and latitude readings and use the previous days procedures.
3. The instructor will have students imagine they are to rescue a lost child accurately and quickly. They are to imagine they're hearing the directions over a radio only once, and immediately must move quickly to the location given. The rescue time is recorded and groups are in competition with each other.
4. A quick informal evaluation is having individuals move to an orally-given location.

Practice and Evaluation of Using Latitude and Longitude on a Flat Surface

Using a field marking machine, the instructor will chalk a very large circle on the playground, grass or on the parking lot if grass isn't available, and then mark latitude and longitude lines.

The students will locate the Tropic of Cancer, Tropic of Capricorn, Equator, Prime Meridian, 180 degree parallel, Arctic Circle, and Antarctic Circle.

A walk-on United States map is painted on the concrete area of the playground. Distributive practice is used with latitude and longitude plot points. Using the action map, the instructor will chalk or tempra paint in the latitude and longitude frames of reference.

1. The instructor will divide the students into groups of three or four. They will find the latitudinal/longitudinal location of the students:
   a. birthplace
   b. hometown of famous movie star, sports hero or rockstar
   c. capital of your favorite state
   d. a relative's home state

2. The instructor will divide the class into co-operative learning teams and have them choose a card and give them 30 seconds (use stop watch) to find the name of the state. Keep a tally for each state found within the 30 second time frame.

3. This same activity can be done inside the classroom as an individual evaluation. Each student can locate a state on their individual desk top map after listening to the latitudinal and longitudinal readings.

Treasure Cake

The students move into a group of two or three. The class will bake a rectangular 25" x 38" cake. Each group of two or three students will pick a coin out of the classroom treasure chest to bury in the cake.

After making their frosting and frosting the cake, latitude and longitude lines are made on the cake using decorating utensils. The next task is to bury the coins by carefully removing a chunk of cake and inserting the treasure coin. Then the frosting must be carefully repaired in that area so that it will not give the treasure location away. Finally, the exact location of the buried coin using degrees of latitude and longitude are written on an index card. The groups exchange the index card stating the latitude and longitude directions. The instructor will say: "You have only one dig with the shovel to find the buried treasure, so take your time; think carefully. Your group must agree on the site in which you are going to dig." When the group retrieves the treasure with their one dig, they may go to the classroom treasure chest and choose one item out of it.

An informal evaluation is made on the group who buried the treasure and wrote the latitude and longitude readings on the index card, along with the group retrieving the buried treasure coin.

Treasure Hunt Culminating Activity

Using the athletic field marker, chalk a grid on the playground with latitude and longitude reference points. Each group will make a decorated treasure chest from a shoe box. Members of the group will provide the contents of their groups' chest they will bury.

Each group will make a treasure map directing the treasure hunters to the treasure. The map must include a legend and compass rose. The treasure hunters will locate the treasure by using their map reading skills.

Final Evaluation

Students will individually compare their experiences in trying to find the treasure at the beginning of the unit with a map that had no reference points and a map at the end of the unit that had points of reference, a legend, and a compass rose.

Support Materials

Map Skill Activities Across the Curriculum

Art:: Design a travel brochure advertising a treasure hunt.

Math: Grid activities, using ordered pairs

Social Studies: Create a treasure map complete with legend, reference points and compass rose.

Music: Listen to "Sailing" by Christopher Cross

Language:

Write a Diamonte poem about Treasure Hunting to be hung on the class "poet-tree".

Compose a class note and put it in a glass bottle with a self addressed stamped envelope so that the finder might return it with some data that you have requested on the form in the envelope.

Using the camcorder, create and film a commercial for your map making company.

Computer Software:

Geography Skill Series, Maps and How to Use Them, Focus Media Incorporated
Master Mapper, Data Command Inc.

Search and Rescue, A Computer Game of Geography Skills, HRM Software, a division of Queue, Inc.

See the USA, Compu-Teach
The Time Tunnel American History Series, Focus Media
Timeliner, Tom Snyder Productions, Incorporated
Treasure Dive, Gamco Industries
Where in the USA is Carmen San Diego?

Maps and Globes:

Nystrom Write-on Desk-Top Maps
Nystrom Write-on Wall Maps
Nystrom Write-on Globes
Houghton Mifflin Individual Globes #1-38714
*Nystrom is a division of Herff Jones, Inc.

Sound Filmstrips:
(Service Unit #8)

SF 1062 Using Maps, Globes, Tables and Charts
SF 03-034 Learning to Use Maps and Globes
SF 2030-1 Map Skills-Understanding Latitude
SF 2065-1 Map Skills-Understanding Longitude
SF 2029-1 Map Skills-Using Scale
SF 2380-1 Map and Globes: An Introduction
SF 1468-1 Maps and Their Meaning

VCR Tapes:

VC0183 Meadowlark Lemon Presents the World

Weather Wise

Grade: 7-12

Abstract

The Weather Wise unit is designed for students to gain knowledge and skills on the subjects of meteorology and climatology. It was primarily developed for ninth grade but may be adapted for use at any level 7-12. Students are introduced to the basics of weather/climate then develop their understanding and skills through several student-centered activities. Students will gain skills in graph reading, data interpretation, weather forecasting, organization and public presentation.

Objectives

The students should be able to correctly:

1. identify the mechanisms that trigger precipitation
2. identify climatic controls
3. read a weather map from a newspaper or TV news broadcast
4. locate climates on a mythical continent
5. read and make climographs
6. critique and develop weather forecast presentations

Major Elements

1. Lecture/lab on weather and climate
2. Mythical continent
3. Climograph activities
4. Weather map reading
5. TV weather forecaster contest
6. Amateur weather forecast presentations
7. Guest expert

Suggested Procedure

1. An anticipatory set may be provided by asking the students to describe the climate for each season in your school's location. Ask if the weather for that day or in previous days matched the climate for that time of year. Ask how your location's climate is different than specific places such as the Oregon coast, central Arizona or southern Florida. What causes these differences in weather and climate? Tell that the discovery of these causes can help us understand our weather and climate and thus help us adapt, relate and live more comfortably in our present environment.
2. Lecture and/or lead students to the discovery of weather and climate factors. I want my students to learn about causes of precipitation which lead to the need to understand how air masses cool, rise and circulate. Lab activities that involve students and enhance understanding include:
   a. demonstrating cooling and condensation with glasses filled with tap water compared to glasses filled with ice water.
   b. observation of swirling motion of water as it goes down the drain—the same forces that cause a counter-clockwise motion also cause the same motion in low pressure systems.

Lonnie Moore
Oxford
Community Schools
Oxford, Nebraska

Lonnie Moore has taught both elementary and secondary levels in his past twelve years at Oxford Community Schools. A native of Bartley, Nebraska, he attended Grace College of the Bible in Omaha and earned a B.S. in education from the University of Nebraska-Lincoln. He is a graduate of National Geographic's Summer Geography Institute and is pursuing a Masters degree at the University of Nebraska-Kearney.

c. a sink or tub with cold water- add a large glass of hot water to demonstrate how the hot water remains in one mass for a time much the same as air masses retain their temperature identities.
d. the use of strong smoke incense to demonstrate that air masses move and rise over heated areas.

As students gain an understanding of precipitation and air mass movement, the teacher may lead them to think about what causes some places to be wet or dry, cold or hot. The class should develop a set of climatic controls such as: rotation and revolution of the earth, mountains, latitude, altitude and continentality.

3. Students should next study the climates of the world and apply the knowledge of weather and climate controls to understand that the climates are not located at random but have a pattern. We study the basic climates and their descriptions through the use of our textbook or student atlas. The point of the study is not to memorize that much of Brazil is in the tropical rainforest climate, but to understand the latitude, air circulation, and altitude limitations to locate a rainforest climate anywhere on earth. Once we have established patterns for each climate, the students are given a sheet of paper with a mythical continent complete with outline, latitudes and mountain ranges. The students are required to correctly place a number of basic climates on the mythical continent.

4. The climograph portion of our study helps equip the students with skills in reading and making graphs. I have discovered some good sources for climographs and climograph activities including Rand McNally's Student Atlas, "Climographs and Deductive Reasoning" in *Directions in Geography* by National Geographic Society and "The Gang of fourteen: A Game for Learning About World Climates" by Montgomery, Wayel, and Petersen published in the *Journal of Geography* in Sept/Oct 1988. After making use of these exercises, my students gather data from our town's official record books on temperatures and precipitation. From this data we develop climatic data for the decades of the 1950's, 60's, 70's and 80's. After developing average high temperatures for each month and average precipitation for each month, the students create climographs for our town for each decade.

5. The weather forecast maps found in newspapers such as the *Omaha World Herald* make excellent material for learning how to know what to expect the weather to be like for any given day. If the maps are kept from day to day the students can also gain an understanding for how weather patterns develop and how systems move across the country.

6. As students gain an appreciation for the newspaper's weather map then they can glean even more from the various TV weather forecasts. I have the students volunteer to videotape the various TV weather personalities that are available to us through local and cable channels. We then view them in the classroom, scoring and critiquing each forecaster for understanding, presentation skills, weather graphics and accuracy. When all available weatherpersons have been viewed and scored, the class presents a certificate to the "Champion". This activity has sparked a lot of interest in my students in following the news and in working to understand the weather.

7. The students should now be so weather-wise that they can make up their own weather predictions and presentations. I divide the class into groups of three to four for the task of putting together a weather forecast and presentation. For high-tech graphics we use the overhead projector with overlay outlines of the United States. The students are free to create the forecast and presentation but the forecast and forecast map must be plausible and accurate for the season that they choose. This activity has also been very popular and has helped students tie together the principles of weather and climate as they are forced to draw an accurate weather map and make a feasible forecast.

8. As a culmination activity, we invite a local weatherforecast personality to come and present his/her side of the weather story. This will give the students a chance to ask a real expert about weather and climate and about careers in that field.

Tennis Globes

Grade: 7-12

Abstract

The following lesson is an innovative approach to teaching geography. It explains how to create globes using tennis balls. The exercise also has students use the globes to create their own map projections. The materials used in the lab are reused or recycled items. The exercise seeks to teach the students geography as well as a respect for the ecology of the planet they are studying.

Rationale

The following exercise is designed to help the teacher make geography more fun for students to learn and your classroom more ecologically conscious at the same time. It describes how to have students create their own globes and map projections using or reusing old tennis balls, used paper and used string. My students found the exercise to be fun and educational at the same time.

Why teach students about globes and map projections you ask? Two reasons come to mind. The first is that the core of geography is the spatial concept, how things are arranged on the planet's surface. The spatial concept is the one constant amongst all the philosophical arguments over the nature of geography. The spatial concept is most often expressed in the form of a map. In order to understand geography, one must understand how to read, interpret and gain information from a map. What should a teacher teach about in regards to maps? The most common answer often consists of a shopping list of characteristics which includes symbols, north arrows, place-names, title, scale and grid system. This is not necessarily a bad approach, but it does bring about some problems. The most troublesome for students is several stereotypes. Stereotype number one is that the top of the map must be north. This creates some difficulty when teaching the Law of the Sea and the students begin to work with a map of Antarctica. Which way is north on these maps? On a map of Antarctica, every direction is north! How will they begin to understand the significance of Green Peace's proposal for an international park or the controversy over drilling for oil in the National Arctic Wildlife Refuge if the map confuses them? Stereotype number two is that latitude and longitude are lines on maps. Students work hard at learning longitude and latitude and countless hours are spent teaching it. Thousands of acres of trees have been cut down to make longitude and latitude worksheets. Have the trees lost their lives for a successful cause? The answer to that question is both yes and no. Yes, students do learn longitude and latitude on the projection that is used on the worksheets given them. Unfortunately, these worksheets often only use one map projection. The result is that when students are confronted with another map projection and the **"lines of latitude and longitude"** run differently than how they have been trained, students easily become confused and somewhere in the forest a mother tree cries out that her child died in vain. This lab aims to correct this misperception in two ways. First, students are required to learn the correct definitions of longitude and latitude and apply their knowledge. Secondly, students make their own map that shows how shapes get distorted when you transfer them from a round surface to a flat one. More importantly, the lab reuses paper, string and tennis balls teaching the students the importance of reducing and reusing. The students not only learn about the earth, but how to take care of it at the same time.

Harris C. Payne
North High School
Omaha, Nebraska

Harris Payne earned his Bachelor of Science degree from the University of Nebraska at Omaha in 1978 and obtained his Master's degree from the same institution in 1984. He has taught in the Omaha Public Schools since 1978, first at Hale Junior High and then at North High School. Additionally, Payne has held assistant professorships at Metro Community College, Dana College, and the University of Nebraska at Omaha. He holds membership in a number of local, state, and national professional organizations, including the Nebraska State Council for the Social Studies (for which he served as president in 1989-90). Among the many awards and honors he has received are the 1984 National Council for Geographic Education Distinguished Educator Award and selection as one of four 1990 Teacher Consultants to the National Geographic Society.

The second reason for teaching this lesson is that it is fun, and geography should be fun. I am sold on the idea that students learn by doing. The knowledge they gain by hands-on experiences is retained longer and creates a more pleasant learning experience. Perhaps I should have put this reason as number one.

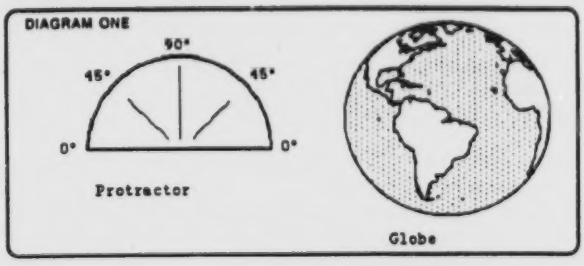
Student Objectives

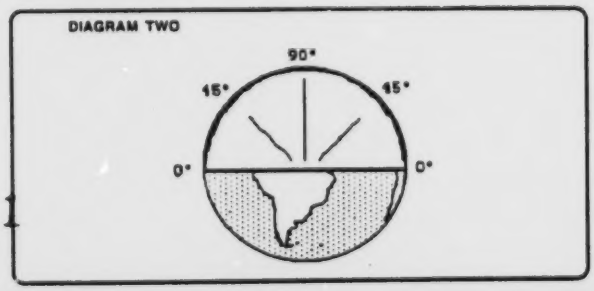
1. The students will create their own complete globes.
2. The students will comprehend the meaning of the various terms associated with globes such as hemisphere, longitude, latitude, north pole, prime meridian, equator and projection.
3. The students will create their own map projection.
4. The students will learn to reuse, recycle, and reduce.

Instructions

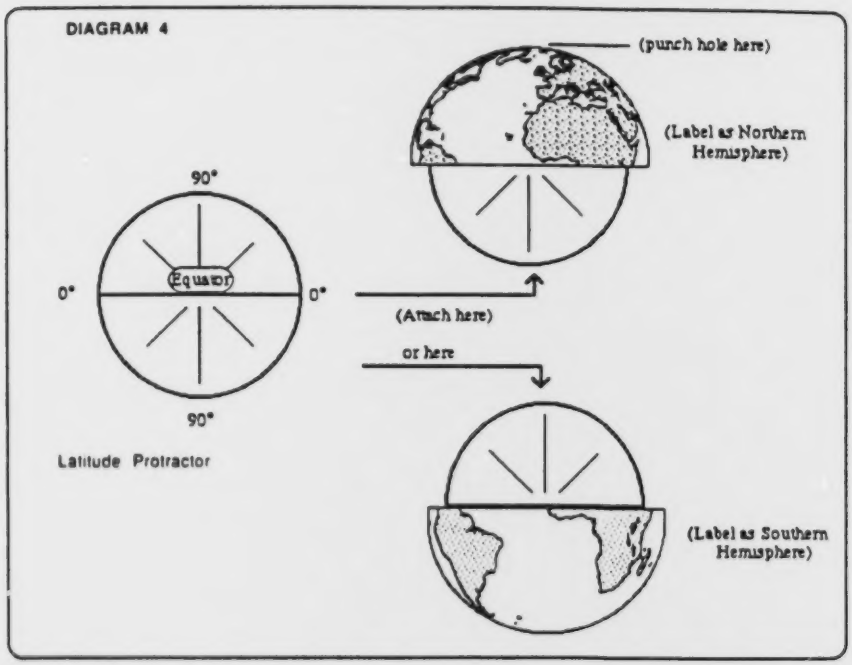
Part One Make a Globe

1. Divide the class into pairs of students. Each pair should be given half of a used tennis ball which will represent a hemisphere.
2. Assign each pair of students a hemisphere (Northern, Southern, Eastern or Western).
3. Take a marker and draw the continents on the globe. (Yes this means you'll have to do some guess work and we don't expect you to be Michelangelo—please try not to be Picasso). Draw the general outline, don't try to color in the water - keep it simple. It would be of benefit to have some globes in the room for students to use as models. Warn the students not to look at flat maps as they trace.
4. Longitude is defined as a measurement of location on the Earth's surface east or west of the prime meridian. Latitude is defined as a measurement of location on the Earth's surface north or south of the equator. The easiest way for students to see this is to place a protractor inside a globe and use it to measure the angles and degrees. Practice marking on the globe the protractor angles to show zero as the equator, ninety degrees as the north pole and forty-five degrees is one-half the distance between the poles. (See diagram one and two for examples.)



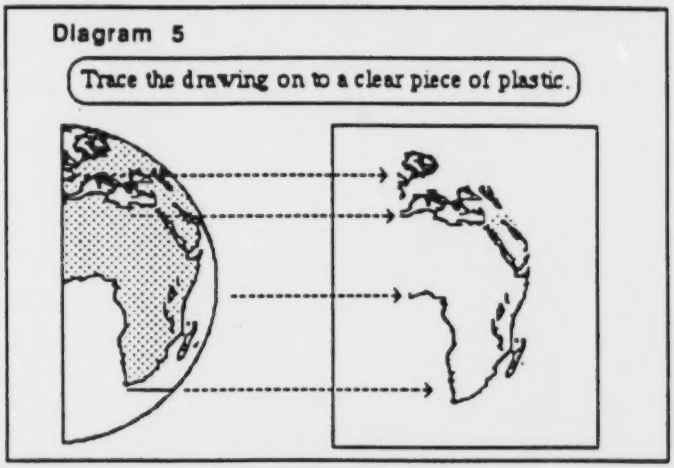


5. Take a piece of used paper or cardboard and cut a circle equal to the diameter of the ball. This will be used as the protractor to illustrate longitude for southern or northern hemispheres and latitude for eastern or western hemispheres on your tennis globes. Use the following diagrams (Diagrams 3 & 4) to help you determine where and how to place the circle in or on the globes.

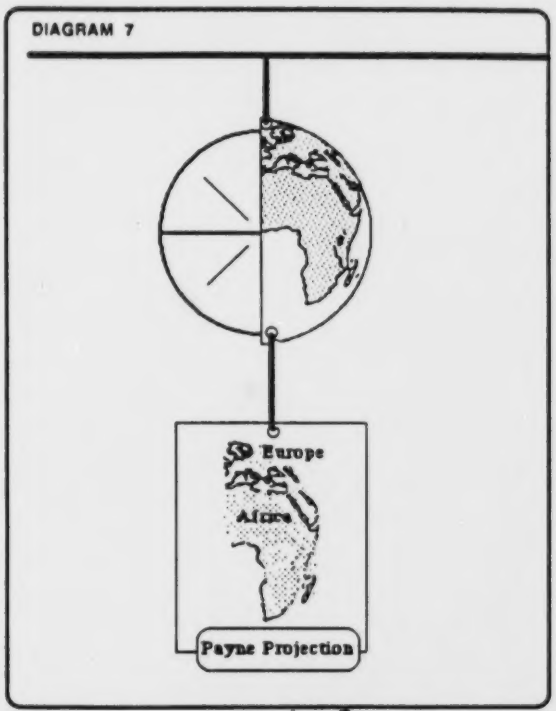


Part Two Make a Map Projection

1. Take a used piece of clear plastic (old transparency film works nicely) and place it over one continent on the globe and trace the outline of the continents. (See diagram 5) This will not be an easy task. The flat paper does not lend itself to tracing a curved surface. The flat plastic map that has just been created is called a map projection.



2. Put your names on the tennis balls and hang them along with your new map projection on the string across the back of the room. (See diagram 7.)



Part Three-Thinking About What the Lab Has Taught You

The following questions help to being the exercise to closure.

1. What would you use the circle in the globe for? The circles would be used to measure either longitude or latitude.
2. How could you have made the shapes of the continents more accurate? Answer will vary from being a better artist and taking more time to stretching out the ball on a piece of wood.
3. What problems did you encounter in Part Two, step #1? Why? The ball was round and the paper was flat therefore it was difficult to trace.
4. How would you define a map projection? Placing the round earth on flat paper.
5. Compare your plastic map to the globe. In what ways is the plastic projection accurate? It will show the general shape but will have some obvious distortion.
6. In what ways is the plastic projection distorted? Either the shape of the continents, distance between them or direction must give in order to transfer them to the flat paper.
7. Could we make a flat map that doesn't distort? No one has yet found a way. Perhaps the computer will someday solve this problem.
8. What could be done to improve this lab? Should we try leaky basketballs instead?

Conclusion

Students found the lab to be challenging and fun. When they were evaluated over the material contained in the exercise, close to ninety-five percent of them could define map projection. This is a significant improvement over past years. It will be interesting to see if the lab improves students' longterm memory. The tennis globes not only helped them learn about the world, they also demonstrated some ways to walk softly as we spend our short time on the big tennis ball in space.

Country of the Year Campaign

Abstract

The "Country of the Year Campaign" stimulates students to learn in depth about one country as well as introduces them to a number of additional countries. The project encourages independent research, cooperative learning, creativity, and role modeling to younger students in the building, in addition to teaching them about people and places in the Western Hemisphere. Whereas this project focused on the Western Hemisphere, it is adaptable to any global area. The project can involve the larger student body or be confined to a single classroom.

Description

Because it is impossible to do a comprehensive study of all the countries of the Western Hemisphere during our social studies period, this activity was designed to allow students to learn about a variety of countries and present that information in a way that other students would be introduced to those countries.

The campaign was divided into three areas: research and preparation, the campaign and convention, and election day.

Research and Preparation (Time: 2 weeks during class periods)

Students formed their own pairs and groups of people with whom to work. Groups of three were encouraged, and the largest group consisted of five. The names of all the countries in the Western Hemisphere were placed on slips of paper, and students randomly drew the name of their candidate.

The students then discovered all they could about their country by doing research. They used the school library, the local library, wrote letters (though enough time was not allowed for responses), and interviewed available persons. One student's father is a ham radio operator who offered to contact countries, so that students could interview people over the radio.

Students were encouraged to learn about the geography, the language, the economy, the government, the people and culture. They were to become such an expert that they also became a friend of their country-candidate.

After all the research was complete, students prepared their campaign. Each group was required to write and deliver a campaign song and speech. Posters were hung throughout the school building. Colorful buttons were distributed to students in the upper grades. Students designed a campaign booth and planned their election day activities.

Campaign and Convention (Time: 3 class periods)

The convention was held in the classroom. Each pair or group presented the campaign speech and shared the campaign song. During this time any special speakers whom groups had contacted came to talk to the whole class.

Penny Jans
Milford
Elementary School
Milford, Nebraska

Currently in her eighteenth year with Milford Public Schools, Penny Jans teaches sixth grade. A graduate of the University of Nebraska-Lincoln, she has previously taught fourth grade and high school remedial reading and English. She is involved in a variety of responsibilities professionally and in her church and community.

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Election Day (time period: 1 afternoon)

As a culminating activity, students in grades four and five were invited to visit campaign booths set up in the gym. Each group's booth reflected information about their candidate. Included in the booths were posters and brochures telling about the country, food samples, and articles of interest: books, flags, coins (or facsimiles), even animals. Groups sang their songs to visitors. Many students wore costumes.

Fourth and fifth grade students had been prompted by their teachers to ask questions regarding the countries. After visiting the booths, all students signed in at the voting booth to cast a ballot for "The Country of the Year."

Grading

Evaluation was done by the individual and the teacher. Each student was required to complete an evaluation form. Points were assigned to each required product. If each group produced the required material, each person in the group received the points. More was gained by the active involvement and enthusiasm of the students than can be measured in letter grades.

Support Material #1

Evaluation "Country of the Year Campaign"

Name _____

Country _____

Campaign Committee _____

_____

Did you contribute to your committee's research?

Some A Lot Very Little

In what way did you help in creating the following?

Posters:

Buttons:

Brochures:

In what way did you contribute to the following?

speech:

Song:

Student Comments: Teacher Comments:

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Support Material #2

Grade Sheet "Country of the Year Campaign"

Name _____

Research and prepare: 2 weeks
Campaign and Convention: 3 days
Election Day: 1 day

Research information (note cards or outline) 25 pts. _____

Poster 15 pts. _____

Button 15 pts. _____

Brochure 15 pts. _____

Speech 15 pts. _____

Song 15 pts. _____

Total _____

A Japanese Video Teaching Tape Exchange

Grade/Course/Subject: Seventh through Tenth

Abstract

A program used to excite students' curiosity about global/international studies. The class makes a video tape about themselves, their school, state, and country. This tape is then exchanged with a school in Japan. The result is a new wave of enthusiasm and understanding of culture, language, people, social systems, and our global interdependence. Global studies becomes something more than just a class since the students have personally invested themselves in the study.

Description

The video teaching tape exchange with Japan is a supplemental program that can be used to enhance the curriculum for global/international studies, including the disciplines of geography, foreign language, English, and speech. In looking for a way to improve our present curriculum in the social studies, several questions were pondered: How do you get students motivated to learn about other countries? How do you get students interested in another country's culture? Language? etc. The over-used word "Boring" was one coming across loud and clear. A new teaching technique was needed or else this seventh grade geography class was going to be lost in the doldrums once again. If the students could have a personal involvement with another country they would be so much more interested. So the video teaching tape exchange with Japan was born.

Being a very small, rural K-12 school in the middle of the vast Nebraska sandhills, we find ourselves constantly struggling to meet and exceed our goals for global education and instruction. We must continue to develop new and meaningful ways to bring our classes into the fast-paced world we are living in today. We do not need to feel isolated because of our rural setting. We can expand our knowledge through the use of modern video technology and continue to reach the goals we have set for ourselves regarding quality education for our students. And this can all be done through the video teaching tape exchange.

The first step in the plan was to decide on the country we would be exchanging with. This fell into our laps so perfectly. A former student of Loup County is now an English Teacher in Japan. By contacting her in the fall of 1990, we decided this was the country for us. She was looking for the same type of exchange information that we were. She brought a new light to us though. The Japanese students' main concern was going to be learning English. Our main concern was going to be learning more about the geography of Japan, the interdependence of our two countries, and other global issues that affected both of us. But, could we not combine the areas? Of course!

So our next step began with pen pals. Each student in my seventh grade geography class in the fall of 1990 was assigned to a student in the Japanese English class. The letters began to be exchanged. Here at Loup County we used the letters as a geography assignment (as well as an occasional English assignment through the English teacher who has been very cooperative in the endeavor). The students thought this was a great way to get to know about the students in another country, but they wanted more than just letters.

Susan K. McNeil
Loup County
Public School
Taylor, Nebraska

Received: B.A. with honors, humanities, Oklahoma State University; M.A. Education, Central State University. Currently in eleventh year of teaching social studies 7-12 at Loup County Public School. Selected 1990 Christa McAuliffe prize winner for teaching excellence in Nebraska. Selected fellow for two National Endowment for the Humanities programs.

The next step was the video tape. The format would include self introductions of each pen pal and teacher. We also would tell about our school, local area, state and nation. The students also had to become knowledgeable experts about our own geography including our history, our people, our culture, our social systems, etc., so we delved into the realm of research. Also in this procedure, students had to overcome their shyness in front of the camera. We practiced several times and let the students see themselves. We worked hard on our speaking abilities. It was imperative that we spoke clearly and distinctly since the Japanese viewers would be new to the English language. Thus, our speech department gave us some valuable pointers in this area. We have been exchanging tapes about once every quarter ever since we began the project in the fall of 1990. The students absolutely love this project.

We are into our second year with this exchange. The students have all kept their same pen pals. They continue to write (and did so over the summer also). We have continued to make video tapes to exchange, too. In each tape we go into a little more detail about a certain aspect of our lives. For example we have shown them our agricultural way of life, including ranching and farming. We have talked about the geographical features of our land. We have shown them various aspects of our culture such as music, entertainment, foods, etc. We have shown them our school and classes in action with teachers teaching. We have shown them extra curricular activities. For each tape we continue to think of different aspects of our lives that we would like them to know more about. And of course, they suggest ideas to us too. And the tapes we receive from the Japanese are mind boggling. It is opening up literally new worlds to our students. Ideas that American students take for granted, concepts they have never even thought of, all of these and more are exposing and opening up new ways of thinking for our kids. They are beginning to think globally. They are beginning to realize that the world does not revolve around Americans. They are seeing that our American way is not always right and is not the only way. They are having their eyes opened up to the real world from right here in the rural, isolated Nebraska sandhills.

The latest idea coming from the students is that we must learn Japanese. The students kept asking why should we expect them to do all this in English? Why are we not trying to learn some Japanese? The students were right on target. Of course, we should be expanding our knowledge of Japan by learning Japanese. We began asking questions. How can we take Japanese? We live in the middle of the sandhills; who speaks Japanese out here? We found out that through a satellite program we can take Japanese. So we are working through the foreign language department and the superintendent and the school board to see about this same group of students pursuing the study of the Japanese language. After attending the October Loup County school board meeting, the board and superintendent are encouraging us to follow through with this plan. In fact our board is very concerned about our foreign language requirements. This would solve a big problem they are having meeting the 20 hour requirement of rule 10 in regard to foreign languages. Everyone is behind us. It will happen, but it will be a year or two down the road before we get all the details worked out. The students are even talking about a trip to Japan after their first year of foreign language!

I would venture to say this has been my most successful addition to my regular curriculum thus far in my teaching career. The students' eagerness to share with others about themselves, their school, their state and country has sparked them to learn more about our own way of life in this country. The curiosity of the students to learn about Japan is just unbelievable. What

a difference this had made in class. The kids are bouncing off the walls of the social studies room. It is really exciting to see this in students. So many times we teachers think our own subjects are really interesting, but the students do not seem to agree with us. This can become very disheartening to teachers. This little project has put that old spark back into my own teaching.

Any teacher could adapt this program to her already existing class. It seems to work best for me in the social studies department, but it could be just as valuable in the foreign language departments as well, or as a combination with various departments. It could even be geared to upper elementary students for a particular study of another country. The main obstacle is finding your exchange school. It is important but not mandatory to have an American contact at the foreign school. If anyone wished to exchange with Japan, I am sure through our Japanese school we can get other schools that would be interested in participating in this type of project. I would highly recommend this project to any teacher who would like to see her students get excited about learning in a very positive way.

Save the Rainforest

Grade/Course/Subject: 4 - 6

Abstract

This five-week unit began with a presentation on "rainforest" by an outside speaker who challenged the class to raise $30 to adopt one acre of rainforest. The children ultimately raised over $1000 and presented their program to thousands of people with the help of the news media. Students developed maps, studied food, plants, animals and insects of the forests. They designed a logo, wrote letters, and quilted a rainforest quilt. The Nebraska Educational Television Network filmed the students for a segment of a documentary.

Description

This environmental unit centered around the awareness of, protection of, and preservation of the world's tropical rainforest. What started out as a challenge of trying to raise $30 to adopt one acre of rainforest turned into saving several acres of land with the enthusiasm of 27 fifth graders.

Craig Faanes, ornithologist and biologist with the U.S. Fish and Wildlife Agency, spoke to the class on the rainforest issue. He then proceeded to challenge the class on adopting one acre of rainforest. The children took the challenge and proposed immediately to do better.

The unit started the last week in October, 1990. The main core of the unit that I developed was completed on January 28, 1991 when the class presented the program to the Grand Island School Board. With the exception of speaking to the board the unit was completed in 5 weeks.

It is a real concern of mine as a teacher that environmental issues become a vital part of our teaching curriculum. In the past four years environment mini-units have been on-going in my classroom. With the awareness I have given students on various issues and topics I feel real good about the future of my environment because of the concern I have helped to generate. Environmental concerns and issues will continue to be a part of my classroom curriculum.

The success of my project was overwhelming! We started out with a goal of making $30—and ended up with nearly $1000! We personally presented our program to over 1300 individuals in the community. We reached thousands of people about our program through the media coverage we received. Media coverage was two local television stations, radio (three days attention), Grand Island Daily Independent, Omaha World Herald (1 major story and three times listed in Fred Thomas environment section), Nebraska Geographer's Newsletter, Staff Stuff Newsletter (G.I. Public Schools). Our logo was put up as a billboard on South Locust Street. Nebraska Educational Network filmed us for a day for the project to be included in a Rainforest Documentary to be shown in 1992 with the opening of the Rainforest Exhibit at the Henry Doorley Zoo.

Another success story is the immeasurable amount of learning that took place with each student. The following skills were undertaken by each student: research, problem solving, mathematics, grammar, writing, spelling, computer skills, disciplined-based art, geography, speech, group sharing, and the list goes on.

Maureen Nickels Wasmer
Elementary School
Grand Island, Nebraska

Home Town: Anselmo, Nebraska
High School: Anselmo-Merna High School, Merna, Nebraska (1970-74)
College: Kearney State College (1974), B.S. in Education
Kearney State College (1978), M.A. in Education
Current College Hours: M.S. +39
Career: Grand Island Public Schools (1974-Present) Elementary teacher
Married to Gary Nickels (Art-Consultant/Grand Island Public Schools)
Daughter, Chelsa age 7
Hobbies: Quilting, singing, yard work

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Additional success stories of my Save the Rainforest unit included:
Earth Expo '91. All expense paid trip for three students and teacher to the United Nations in June 1991.

Mrs. Nickels awarded Peter Kiewit Foundation 1991 Nebraska Teacher Achievement Award.

The enthusiasm and excitement that this project brought forward made my year as a classroom teacher one of the most exciting of my 16 year career! Attendance level by students was at an all-time high. My students couldn't wait to come to school each morning. One thing that many of them commented on was the realization that "kids can make a difference". As an elementary teacher I work hard at trying to instill the belief in each student that "you can do anything you set your mind to." These students through group effort and a strong belief in saving the environment and the Rainforest proved me correct! What a great feeling!

Unit Schedule

Day 1
Rainforest Awareness
Lecture time and video (Rainforest Rap)

Day 2
Continue Rainforest lecture/slide presentation

Days 3, 4, 5
Group Research Work
Divide into groups:
Maps of rainforest areas
Foods derived from rainforest
Facts, figures, trivia of rainforest
Plants, animals, insects of rainforest
Importance and preservation of rainforest

Day 6
Group logo designing
Each group in charge of designing a logo
(art consultant to design a master logo)

Day 7, 8
Persuasive letter writing
Each group writes one letter

Day 9
Word process persuasive letters
Xerox 20 copies of each letter

Day 10
sign and address persuasive letters

Day 11, 12
Bake sale preparation
1. When
2. What to sell
3. Who will sell
4. Media coverage
5. Signs to make
6. Notes to parents
7. Rainforest displays
8. Business contacts for pledges

Day 13
Practice classroom presentations
(Sign up classrooms for designated times)

Day 14, 15
Classroom presentations/Business contacts for pledges
Set up out-of-classroom presentation

Day 16
Last minute bake sale details/after school set up

Day 17
Bake Sale Day

Day 18, 19, 20
Out-of-school presentations

Day 21
Family Art/Quilt Night
Art consultant demonstrates Central American Mola
Each family receives a quilt block to design

Day 22
Quilt night help
Open to any family that needs help or assistance on completing their quilt square

Day 24
School Board presentation of Rainforest program

Support Material

Rainforest Rap
Video World Wildlife Fund

Tropical rainforest-A Global Issue
Video

The Unknown Forest
(slides) World Wildlife Fund

Ranger Rick's Nature Scope:
(Rainforests: Tropical Treasures) Vol. 4, Number 4

3-2-1 Contact
(Saving the Rainforests, A burning Problem) December 1990

Craig Faanes, Biologist/Ornithologist, U.S. Fish & Wildlife Agency (guest speaker/ community partner in project)

Parent Volunteers
Drivers for outside school presentations and for making the Rainforest quilt after all families turn in squares.

Food Product and Medicine Bottle Displays
Items donated by neighborhood grocery stores and local pharmacy.

U.S. Fish and wildlife Service

Pet Gallery Tropical parrot for display during bake sale.

See the World

Grade/Course/Subject: Intermediate

Abstract

What better way to show children the benefits of cooperative learning than to let them see teachers cooperating to develop a lesson that, because of these combined efforts, soon blossomed into a full-fledged inter-disciplinary project?

For students who have never traveled far from home, it offered a way to let their imaginations take flight, right along with their skills in researching, writing, math, social studies and science. All five senses were employed to give students a chance to taste, see, feel, hear, and even smell a part of their world.

Rationale

Distinguishing between states, countries, and continents is a difficult concept for 4th graders to visualize. Our goal was to find a project where all 75 fourth grade students at Emerson Elementary could work together toward a better understanding of the world in which they live. With this in mind, we chose to begin our study with the continents. In our individual classrooms we began with the continent of North America. We then planned to study Australia because of its unique and varied animal and plant life, a subject which fascinates most children this age.

To help the children understand where Australia really was in the world, and how long it would actually take to get there, we decided to take an imaginary trip. Parents willingly helped by making passports and banners for our journey. As the project developed, we found ourselves adding activities from every subject area we teach.

Flight Background

Before the day of the project we wanted to familiarize the classes with some of the interesting animals and lands of Australia. By learning outlining and research skills they were able to write reports on these topics. We spent two weeks preparing them for reporting and then each one chose a different animal or plant for their report. Many chose to do more than one. These reports were read to the class so that every student had some background on these plants and animals. This proved to be very interesting to them when later they saw the video depicting "their" animal or saw "their" plant. It also provided an excellent unit for writing and researching which was very relevant to them since they were already looking forward to the trip. Map skills were also discussed in preparation for the flight. Time was spent in class clarifying the concepts of North, South, East, and West, the seven continents, different hemispheres, and oceans so that these would be familiar to them once the flight attendant helped them to trace their route.

Preparation

Arrangements were made to use the music room for our airplane. Rows of chairs were arranged much like a real plane. We spent some time together planning our seating so that each row of four contained a heterogeneous group. This was important because of some cooperative learning we planned to do during our flight.

Vera Johnson
Emerson
Elementary School
Alliance, Nebraska

I am a fourth grade teacher in Alliance, Nebraska. After graduating from Dakota State College in January of 1972, I began teaching in the areas of Special Education and title programs. For the past ten years I have taught 4th grade in the Alliance City Schools. My husband also teaches in the Alliance Middle School. We have two daughters 12 and 7.

Karen Rhoads
Emerson
Elementary School
Alliance, Nebraska

I have been teaching in the Alliance School System for eleven years. I graduated from Chadron State College in 1971, taught in a one room school house, and at a Day School on the Pine Ridge Reservation before moving to Alliance. My husband works as a machinist for Burlington Northern Railroad. We have three children.

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We were fortunate to arrange for a real flight attendant from United Airlines to accompany us on our trip. She greeted each passenger at the door, checked their boarding pass, which was a folder containing all the things they would need during the flight. The front of the folder had each student's row and seat assignment. When all the passengers had boarded, the flight attendant asked that they store all loose materials under their seat and prepare for take-off. The local radio station had provided us with a sound effects tape containing the take-off and landing of a jet plane, which added a touch of realism. The flight attendant then proceeded to give a demonstration of how oxygen masks worked, where exits were located, and all other general information given on a real flight.

In flight

Once airborne, a large world map was displayed in the front of the room. The flight attendant traced the path our flight would take from the west coast, over Hawaii, and on to Australia. She discussed directions, land formation, hemispheres, time zones, and oceans. After the geography lesson an in-flight movie was shown of the continent of Australia, and the scenery they could expect to see upon landing.

When the movie was over, refreshments were served by the flight attendants (4th grade teachers). The children sampled anzac cookies and vegemite sandwiches, both native Australian foods. While they ate, one of the flight attendants read a story to them by the Australian author, Mem Fox.

We introduced the children to Aussi language, the use of words familiar to native Australians, but not used in other English speaking countries. Students also had a list of these words in their folder to refer to at a later date.

Our landing in Australia gave us an opportunity to take a short break for rest rooms and drinks.

Return Flight

The flight back to the United States and home provided more opportunities for learning activities. After again using sound effects for our take-off we had time in flight to go over a product map of Australia using an overhead projector (a little like seeing a movie?) Each student had his or her own copy of the same map in their boarding pass folder and all participated and were able to identify crops and natural resources using their map. Whole group involvement was monitored using thumbs up, thumbs down to check for agreement and understanding.

The flight attendant visited with the children about time zones and jet lag before moving into a cooperative learning assignment in math. Five story problems involving population, foods purchased in Australia, and distances were included in the boarding pass folder. The students worked in a Think-Pair-Share situation to solve their problems. These were then transferred to their chalkboards so that they had immediate feedback from one of the three teachers or the flight attendant as to the accuracy of their solutions. By assigning certain chair members as readers and others as recorders all had an opportunity to participate actively.

It was then time to bring the plane in for a landing. The sound effects tape brought a sort of closure to the lesson but the learning did not end here.

Follow-up

The flight behind us, we returned to our separate classrooms for some follow-up activities.

We watched a video about the unique animals of Australia. Many children recognized these animals from reports they had done previously.

To incorporate some art work into our plan, each child created a poem about some aspect of the trip that was special to them and then illustrated their poem, which was then hung on display in the hallway.

We read another literature book by Mem Fox and talked about the beautiful illustrations contained in her story "Koala Lou."

The next day, as another review, the children wrote stories using as much of the Aussi language in place of English as they could. They had great fun sharing these stories with their classmates.

Conclusion

Our pretend trip was such a success we plan to visit each of the other continents in much the same way. This project is easily adapted to all age levels simply by changing the difficulty of the projects. Parents were very positive in response to the trip and many enjoyed learning along with the children. The anzac cookie recipe was requested by many. It was a wonderful way to combine all three fourth grade classes in a meaningful learning situation, and we feel we exceeded our original goal.

Support Materials

AUSSIE-Australian
G'DAY-Good day, hello
MATE-Friend
SHEILA-Girl
CUT LUNCH-Sandwiches
FAIR DINKUM-Real, Genuine
GARBO-Garbage Man
LOLLIES-Candies
MOZZIES-Mosquitoes
LOO-Bathroom
BLOKE-Man
NO WORRIES-It's OK
TA-You're Welcome
TUCKER-Food
FAIR DINKUM TUCKER-Real Food
STATION-Large Farm or Ranch
TEA-Evening Meal
BARBIE-Barbecue
WHINGE-Complain
WOWSER-Spoilsport
BUSH-In the Country

The Humanistic Perspective: Cultural Interdependence

Grade/Course/Subject: 11 and 12

Abstract

In the "Humanities" course it is possible to form a humanistic perspective toward multi-disciplinary learning. Such an approach allows students to reconsider what they think they know about themselves, about their culture, about the very formation of cultural mores and values. To study cultural interdependence, students are asked to read widely on how civilizations are formed, then to apply their reading in a number of experiential ways. The culmination is in students creating their own communities.

Introduction

A course entitled "Humanities" is often analogous to a class in Western Civilizations, an interdisciplinary study of the ancient world through the modern period. However, another way to look at "Humanities" is as a course to help students gain a humanistic perspective on the world, to *think* in both an interdisciplinary and multi-disciplinary fashion. This entails students' recognizing how to live with ambiguity and simultaneously realizing the vast integrative powers of the human mind to pull from various sources in order to reach a level of "meaning" in any given context. Societies have always plied the individual, as revolutionary thinker, against the established mores of their own set notions of "truth." A humanistic perspective helps students to redefine "truth" by asking such questions as How? and Why?—Why do we believe as we do? Where do such ideas come from? What are the implications of such ideas? And What happens when any member of a group chooses to redefine his/her own "truth"? A humanistic perspective is much more difficult to achieve than simply allowing students to study the art, music, literature, architecture, and science of a given era. But in the long run this perspective is the more important for the student because s/he is forever after able to reperceive apparent reality in view of why any given culture does what it does and how any given culture, including our own, happens to get to where it is.

Specifically, to gain an insight into the bases and formation of all peoples in all cultures, students in the "Humanities" course do the following three things in the first unit.

A. The Formation of Civilization

Students are exposed to precepts on how *all* civilizations are established. Four elements are considered: Economics (tillage; industry-tools, building, transport, trade and finance); Political (the village community; the psychology of the state; the idea of family and the necessity of virginal marriages; the inevitable place of women in the structure); Moral (the cult of the goddess in early peoples' religious understanding; marriage; sexual morality; social morality; religion and its growth); Mental (literature and language; science—its origins in mathematics, astronomy, medicine, and surgery; the arts as a means of displaying "beauty").

Students read various sources, including: Will Durant's *Our Oriental Heritage*; early chapters of Joseph Campbell's *The Hero with a Thousand Faces*; Carol Christ's *Why Women Need the Goddess*; C.S. Lewis' *What Christians Believe*; Bertrand Russell's *Why I Am Not A Christian*; Arthur Cohen's *Why I Chose To Be A Jew*. Students also read the genesis myths from each of the following cultures: the Greeks, Japanese, Chinese, Christian, Sumerian, and Ugandese.

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Based on this reading background, students are given three learning experiences.

First, students assume the role of archaeologists. Each day for a week they are asked to respond in writing to "findings." For example, on the first day I tell them that they have discovered fragments of manuscripts from several cultures (see genesis myths noted above). They do not know which cultures produced which myths, only that the cultures are separate in place and in time. As scientists, they are to report commonalities among the myths: What do all these peoples seem to have in common in how they view themselves, how they view their gods, and how they create their values?

Second, students are made part of a village and are assigned roles. For example, one group might form the elders of the council. Another student might be Lesoona, the spear-maker. Another might be Solzeenca, the hunter. Placed before the elders are the innumerable problems associated with the formation of political, religious, economic, and mental values discussed in the readings above. Solzeenca might be convinced that Lesoona is not making straight spears, hence Solzeenca's inability to provide food for the village. Reani, Solzeenca's cohort in the hunt, might do nothing, leaving Solzeenca to get all the provisions, yet Reani shares equally, as do all the others in the village. Or let's say that Innowa has succeeded over the others in grain cultivation. Now that he's an old man, he's concerned abut the meaning of his hard work during his life. He wants to pass along his accumulations—his tribal office, his larger hut, his wisdom—but he's not sure that Sealo is his son, since under the cult of the goddess, propagation is not connected to marriage. Innowa, as a member of the council of elders, wants to pass a new law in the tribe to require a new ritual, marriage, so the woman he takes to his bed can be acknowledged as his and so that the sons he produced can be shown to be the legitimate heir to all Innowa's goods.

The students are asked to role-play these and other parts so they recognize not only how difficult it is to form a society and to establish its mores, but also how political organizations emerge, how economic stability forces a differentiated system of values, and how moral and religious forces reinforce the political structures to establish societal values.

Students learn both what constitutes *ALL* cultures and also what forces begin to differentiate them from one another.

Third, the experience of the formation of cultures is modernized. After reading Christ, Cohen, Russell, and Lewis, students are assigned one of the four positions: Jewish; Christian; the goddess vs. patriarchial religious myths; agnosticism. They then argue these four positions based on cultural assumptions, e.g., What assumptions about the nature of God does C.S. Lewis make when compared to the assumptions (different) made by Christ, Russell, and Cohen? How do these assumptions connect with the genesis myth of a culture and with the establishment of the culture's values?

B. The Creation of a Community

After studying the ways by which civilizations are formed, how and why they form along certain political, social, artistic, and religious lines, the students are expected to create their own utopia. (See Appendix I) The only guideline is that students must be intellectually responsible for their ideas.

First, students are grouped and asked to name themselves, then to form values and ideals (See Appendix II for information and guidelines).

Second, each group is then asked to apply its values to specific institutions (See Appendix III).

Students take notes both days; these notes are reproduced for the rest of the class members to form the basis of the third day of discussion and debate.

Third, each group must present its findings to the other groups. All other groups are allowed to question the presenting group, questions centering on what the community said it believed (its values) vs. what it says it's going to create (its utopia). For example, one group might say that it believes in individual freedom for everyone, yet it also says that under "art" it will not allow pornography. Such seeming inconsistencies could generate such questions as: Is this inconsistent? How does one achieve individual freedom? Is freedom a form of responsibility? Does individualism come when certain restrictions are placed by a society?

Students come to recognize two general configurations in the formation of cultures (See Appendix IV).

C. The Final Discussion

Students are asked to read excerpts from Plato's *Republic* (including "The Allegory of the Cave"), excerpts from More's *Utopia*, and Toni Morrison's *Beloved*, a contemporary black woman novelist's work on slavery.

The concept of societal values vs. individual values is established through the discussion of Plato and More. Then Toni Morrison's work is discussed, based on the following

Comparisons to Plato and More:

-a comparison of white "caves" with black "caves";
-the precepts on which white cultural norms have been built;
-the precepts on which black cultural norms have been built;
-the inconsistencies in both groups between what each group idealized (values) and what each lived (institutions and societal structures);
-the relations of such differences to the major elements on which a civilization is built (as discussed earlier—the economic, political, moral, and mental elements of a civilization);

Then, after the all-class discussion, students are expected to write a short story, creating a character who lives today but who is culturally at odds with his/her modern society. The character must be an Eveper (Everyperson journeying through the structures of modern society. Thus, like the Medieval play, *Everyman*, the Eveper character is presented with certain allegorical aspects of today's world, as named by the students: i.e., Worldly Gain, Instant Gratification, Traditional Classrooms, Government).

Conclusion

Students, thus, are exposed to thinking which is both interdisciplinary and applicable. They respond to how all cultures are formed globally. Specifically, students learn:

-how cultures are formed from the same human needs coupled with environmental dicta;

-how cultures develop basic beliefs and values, including religious mores (the genesis accounts are highly correlative); political configurations; positions on family, marriage, and human relationships; artistic validations of cultural norms; economic structures;

-how the individual and society are at odds in the lived "truth" of any given culture(as seen in Plato's Allegory of the Cave");

-how the formation of a society's future is predicated not only on where its values originated, but also on the correlation between its values and its institutions.

Support Material

Appendix I: Create a Society*

For much of human history people, from the great philosophers and thinkers (Plato in his *Republic* and Thomas More in *Utopia*) to the everyday hard-working but also concerned citizen (Thomas Jefferson, John Adams, John Jay, Alexander Hamilton, Benjamin Franklin) have attempted to think about and to create ideal societies. Such people recognize that human experience is centered only on what we as humans think about ourselves (the great questions of What am I? What does it mean to be mortal? etc.), but also on what it means to commit oneself to forming and building a community of values.

In 1991 a group of people, from many fields of study, concluded that within ten years the earth would be uninhabitable. They agreed that they wanted the human race to continue; they, therefore, identified a planet 300- light years away, as a suitable home for a colony.

The colonists were to be 2500 human children (50% male and 50% female) selected from all over the world. The children were tested to determine that they were healthy, of average to above-average intelligence, and had no personality abnormalities or antisocial tendencies.

In order to maintain flexibility in the colony's social organization, the children were raised in a fairly neutral environment. They were well-educated, but not socialized to believe strongly in any particular value system or ideology. They were not robots, but people aware of many different forms of human social institutions. The colonists were placed in life-support capsules on the spaceship. These capsules were designed to slow body processes so that at the end of the journey, the colonists were still only 20-30 years old.

Seven of the capsules were designed to awaken their occupants as soon as the ship landed (the selection of these seven being arbitrary). These seven individuals were to be responsible for outlining a social system and incorporating all of the other colonists into the new society.

The ship landed on a portion of the planet which looked very much like the natural environment of eastern Nebraska. There was an abundance of natural resources. Food supplies on the ships were adequate for about a one-year period and the storage compartments contained many products of human culture, including tools and books.

Imagine that you are one of these seven colonists. *As a group* you are free to set up a society with any form of social institutions you can devise. The prime criterion is that your institutions should be functional and result in a permanent colony.

*This support material was the combined result of a project for the Nebraska Scholars' Institute, Summer, 1991, headed by myself and Dr. Rob Benford, Department of Sociology, University of Nebraska-Lincoln.

Appendix II: First Day

Take group notes. You will be held intellectually responsible for your ideas.

Your responsibility is to establish the values and idealism on which your society will be built. That requires you not only get to know each other, but also that you discuss the important concepts and assumptions on which you will construct social, political, economic, and religious organizations.

You will want to discuss these ideas among yourselves; you will want to come to consensus and/or majority vote on the community's belief system; you will want to anticipate the consequences of your decisions for the future of the society and accept responsibility not only for your beliefs but also for such consequences.

I. Begin by naming yourselves. A name and naming are symbolic acts. Take into account not only the name but how the name defines your group.

II. Discuss each of the following questions, then form a group decision:

A. Are human beings basically good or evil? On what do you base your assertions?

B. Is equality among people possible? Why? Why not?

C. What to you is "beauty"? What kind of aesthetic beliefs do you hold based on your concept of beauty?

D. What is "love"? What is the relationship between the idea of human love and human intellectual belief systems?

E. What is the nature of "truth"? Are human beings able to achieve truth through discovery? Through creative invention? What does the difference between discovering a truth already in existence vs. creating one's own truth say about the nature of human beings?

F. What is "reality"? What do such things as the following tell us about how we perceive "reality": 1) the kinds of buildings we build and their function; b) the kinds of clothes we choose to wear; c) the kinds of music we produce and what its variety and sound tell us about the kind of culture we think is important; d) the kinds of things we surround ourselves with as entertainment; e) the kinds of sounds (other than music) we hear in our environment and what these tell us about what we value; F) the kinds of symbols we have around us (the flag, coiffeured lawns, colorful objects, signs, etc.)?

G. Is there the possibility of "free will"? How do you define "free will"? How does one achieve "free will"?

H. What basic beliefs do you hold about the nature of humankind and how does your sense of religion, God, gods, doctrine, the idea of a supreme being fit into molding your basic beliefs about the nature of being human?

I. How do the items you choose (or those chosen for you) to surround yourself with reflect and/or not reflect your own moral, intellectual, and/or aesthetic beliefs?

III. Once you have discussed the above, think inductively for a moment and decide something about the assumptions on which your individual and group ideals and ideas are formed.

A. What assumptions about human nature does your group make?

B. What assumptions about the nature of God/supreme being/an infinite beyond ourselves does your group make?

C. What are the implications of these assumptions? For example, if you assume that humankind is naturally good, then how does that belief influence what you do, what choices you make, your ideas about the future?

Appendix III: Second Day*

Take group notes. Again, assume intellectual responsibility for your ideas.

Now that you have agreed upon the values and ideals on which your society is to be based, establish a permanent colony. You must reach consensus regarding how your society will be organized.

Despite the remarkable differences in cultures and social systems that have appeared across societies, every human society has found it necessary to form lasting institutions to deal with various problems. These social arrangements channel behavior in prescribed ways related to family, economy, polity, education, and religion. The institutions function to pass on a society's values, norms, role expectations and way of life to succeeding generations.

I. Which institutions will your colony establish? Why?

II. How will each institution work? What tasks will each address? Will the institutions be self-perpetuation, laissez-faire? Will they be socially directed? Centralized? Decentralized? Why?

III. How will your institutions address everyday concerns, such as food, water, sanitation, shelter, transportation, communication, health, security, and the like?

IV. How do the various institutions affect one another?

V. How will your society deal with deviance?

VI. What is the relationship between your society values and the established institutions?

VII. Attempt to deal with the following:
religious organization?
governmental organizations?
other political groups and organizations?
art and aesthetic needs, groups, and the like?
family types?
educational organizations?

types of vocations and concomitant organizations?
economic systems?
health systems?

*This support material is also the combined result of a project for the Nebraska Scholars' Institute, Summer, 1992, headed by myself and Dr. Benford.

Appendix IV: Conclusions

The following conclusions seem to be generated from the establishment of the communities:

NOTHING IN THE IDEAL IS IDEAL

ABSOLUTE FREEDOM IS TERRIFYING (as Nietzsche said)

INDIVIDUAL GENIUS AND SOCIETAL OR CULTURAL TRADITIONS EXIST IN AN UNEASY TENSION WITH ONE ANOTHER

Based on the produced community information and the subsequent discussion, all the societies fall into one of two categories:

Configuration 1
1. Truth ultimately comes from individuals.
2. Individuals are responsible, capable of governing themselves, motivated.
3. Truth is ultimately determined through debate, which necessitates much conflict and testing of ideas in communal meetings.
4. Members of the communal group are a family; they accept, respect, and take care of each other.

Configuration 2
1. Truth ultimately comes from older, wiser, better-"educated," and more experienced participants.
2. Participants are capable and willing to give commitment and loyalty to the group, community, organized social structure.
3. Relationships are basically hierarchic.
4. Each member has a niche that is his or her territory which cannot be invaded.
5. Members of the community are a "family"; they accept, respect and take care of each other.

These societies are based on two very important aspects of how the groups members perceive human nature and truth:

HUMAN NATURE IS BASICALLY GOOD (in nature) vs. EVIL (original sin).

TRUTH IS MOST OFTEN DISCOVERED, AT TIMES REVEALED.

Trouble in the Tropics

Grade/Course/Subject: First - Third

Abstract

Trouble in the Tropics is an interdisciplinary unit that immerses children in real issues of environmental welfare through research-based methodology which includes active hands-on learning, cooperative learning, critical thinking, writing across the curriculum and total integration of disciplines. Besides providing a knowledge base about rain forest deforestation and its global implications, this unit provides an opportunity for students to use information coupled with action as a powerful tool in affecting positive changes in our world.

Purpose/Overview

The environmental concerns facing society today will create a tremendous burden on people decades and centuries into the future. Children of the 90's play an important role in addressing these concerns and creating solutions.

While young children often have first hand knowledge of earth-saving techniques such as recycling, reducing waste, etc., their knowledge is incomplete. The world is *our* backyard, and ideology must change to match that fact.

The purpose of Trouble in the Tropics is twofold: 1) to enlighten children to the fact that rain forest deforestation will have a dramatic effect on their lives, and 2) to create a knowledge base for producing actions that have the power to affect change in the rainforests of the world.

This interdisciplinary unit is NOT just a social studies unit with cute activities related to a theme. Trouble in the Tropics immerses children into REAL issues of environmental welfare through research-based methodology including active hands-on learning, critical thinking, cooperative learning, writing across the curriculum and *total* integration of disciplines. Scientific knowledge of rain forests will be gained through literature study, language arts, mathematics, social studies, music, art, and drama. With this background, students will then be given the opportunity to combine knowledge with action in order to positively affect the future of our environment.

Objectives

Upon completion of this unit, the students will have demonstrated the ability to:

A. Name plants and animals that live in the rain forests.
B. Describe the rain forest layers.
C. Discuss deforestation and its effects on the earth.
D. Draw or write about products we use that come from the rain forest.
E. Use a map or globe to identify the equator, the tropics, and at least one rain forest area.
F. Write a persuasive letter stating concerns about the rain forests.
G. Work in cooperative groups to create a realistic depiction of a rain forest.
H. Work in cooperative groups to research, write and present an informational report about a rain forest animal.
I. Use liquid and dry measurement and fractions to write and follow a recipe for making "Amazon Ambrosia."
J. Produce a personal response to related literature which may include journal writing, drawing, or reading other literature.
K. Sing a song that reinforces the concept of global responsibility.

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Jody McWilliams is a native Nebraskan, graduating from UNL in 1985. She has taught a variety of grade levels at Raymond Central Public Schools. Staff development work takes up much of her spare time. Jody currently teaches Second Grade at Raymond Central Public School and Cooperative Learning to area educators. She lives in Ashland with her family.

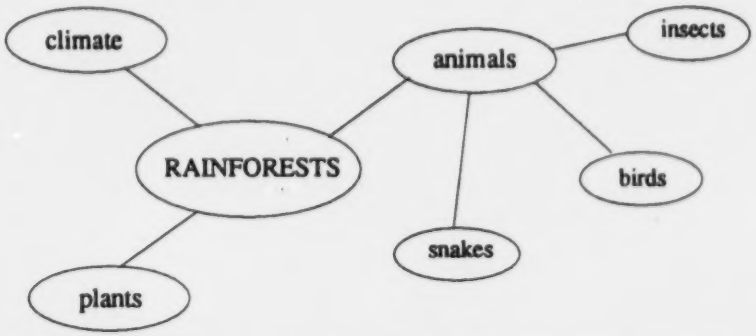
Integrated Activities

[Authors' Note: Although Trouble in the Tropics was written for and used with second graders, it could easily be adapted to other grade levels. Teachers should feel free to choose and sequence the activities appropriately for their own classrooms. We used the materials available to us, but there are many others which could easily be substituted for the ones cited here.]

A. Introductory Activities

1. Webbing

This study is opened by asking the children, "What do you know about the rainforest?" Record generated ideas on chart paper, "webbing" the ideas together by subject. See example:



Repeat this activity at the end of the study and make comparisons of the two webs. At that time, have the children discuss the webs and state what learning was most important to them.

2. Literature Studies:

Fiction, *The Great Kapok Tree*.

As an introduction to rain forests, read this book to the children. Read slowly, allowing the children to make observations and predictions. If children are familiar with personally responding to literature, they may do so on their own. If not, suggest responses, and let each child choose his/her own way to respond to this powerful story.

Non-fiction *Rain Forest Secrets*.

Use this book as a resource to build knowledge of the rain forest and its products. Each child will draw a product from the rain forest. Create a large collage from the drawings and have each child write a sentence telling the importance of these resources.

Non-fiction, Newspaper.

Use Scholastic News Ranger (April 1991) on rain forests to give students an overview of the forest, its people and its resources. In cooperative groups of three, the children each study one of the articles, highlighting important facts to teach other group members. (Social skills: listening to others and checking for understanding.)

B. Developing Activities

1. Science:

Use the laser disc, *Rain Forest*, produced by National Geographic, to expose the children to the sights and sounds of a rain forest. Use these focus questions and discuss: What plants or animals do you find interesting? Why? What are your concerns about the rain forest?

2. Social Studies:

Map Skills

Using various kinds of maps and globes, introduce the equator and the tropical regions. Point out areas of tropical rain forests. Using world map (see Support Materials, appendix 2), children draw in the equator, the Tropics of Capricorn and Cancer, shade the tropics, and color in at least two rain forest areas.

3. Science/Social Studies:

Deforestation

Review that plants and animals live in an environment that matches their needs. Ask this focus question: "How can cutting down some parts of the rain forest hurt other plants and animals in the rain forest?"

Role play to help children deduce an answer to this question. Most children will play trees, with a few of the children playing quiet animals crouching in the rain forest. The children crowd closely together. Ask: "What is it like in the middle of your rain forest?" (Dark, warm, close.) Turn on two fans, pointed at the rain forest. As the teacher "chops down" the outer edges of the rain forest, discuss how the climate is changed.

Emphasize these four major affects of deforestation:

a) Over one half of all the world's plants and animals live in the rain forest and many are becoming extinct.

b) Over one fourth of the medicines now used come from the rain forests. Scientists think cures for fatal diseases may be found in rain forest plants.

c) One reason deforestation is occurring is to make room for cattle grazing. Much of the beef is going to fast food restaurants.

d) The rain forests help control the world's climate. Deforestation could lead to global warming.

4. Science:

Water Cycle

Experience the rainforest climate by planting "mini rain forests" (terrariums). The children can observe the water cycle first hand.

5. Literature Studies

Folktale, *Jaboti Plays His Flute*

Use this African folktale to teach the reading/literary skills of critical attributes of a folktale, prediction, realism/fantasy, personification and inference.

6. Art

Mix media

Introduce children to the four different layers of the forest. In cooperative learning groups, students create a large mural depicting a rain forest. Assign each group to work on a specific

layer of the forest. Children will need to research, plan, measure and use a variety of materials to create the three dimensional mural. (Social skill: Getting everyone involved.)

7. Music

Sing "We All Live Together." This song supports the idea that we live separately in our own homes, yet we all live together on the planet Earth. Write the words on chart paper so that the children can learn to read the words as they sing.

8. Writing

Informational Report

Divide the children into cooperative pairs. A skilled reader is needed in each group. Each group chooses a different rain forest animal and collects the appropriate resource books. After the teacher models report writing, the students research the animals and write, edit and publish their group reports. The students use oil pastels to illustrate their animals for the mural and present their reports to the rest of the class. (Social skill: Asking for ideas.)

C. Culminating Activities

1. Math

Dry Measurement

Make "Amazon Ambrosia." Children bring fruit or nuts that are products of the rain forest. As a whole group, write a recipe for "Amazon Ambrosia", focusing on "cooking words" and measurements. While preparing the salad, children use measuring cups and compare fractional parts of a cup. Eat and enjoy!

2. Writing

Persuasive Letters

Ask: "What are your concerns about the rain forests?" "What can children in Nebraska do?" If the children do not come up with the idea, suggest that they write letters. After brainstorming places and people to write, the children choose to whom they will address their concerns. Group children according to interest. (The children may write to world leaders, fast food restaurants, corporations, etc.)

Discuss what topics to cover in the letters. Write group letters, and edit. Have each child recopy the letter his/her group has produced. (This activity is used as a teaching point for letter format and addressing envelopes.)

3. Field Trip

Rain Forest Exhibit

By the spring 1992, Omaha's Henry Doorly Zoo rain forest exhibit will be completed. A trip to this exhibit would be an unforgettable learning experience and an exciting culmination of this study!

Outcomes

The excitement and motivation present in our classroom during this in-depth study was almost overwhelming! The successes were measured in many ways, but in all areas, pride and pleasure in learning were evident.

All children sent letters, to which many received replies. When that occurred, a class meeting was called for sharing the response. These were displayed in the main hall.

There was a marked increase in sensitivity to environmental issues at home and school.

We noticed more children reading and discussing non-fiction materials and environmental theme books.

Although all children passed a written test on the main objectives, the real test came when we repeated the webbing activity. When finished, we compared our current knowledge to our previous knowledge. One child said, "Before, I didn't even know there *was* such a thing as a rain forest. Now look at all we know!"

It is our prediction that these children will carry this knowledge, concern and global responsibility into adulthood.

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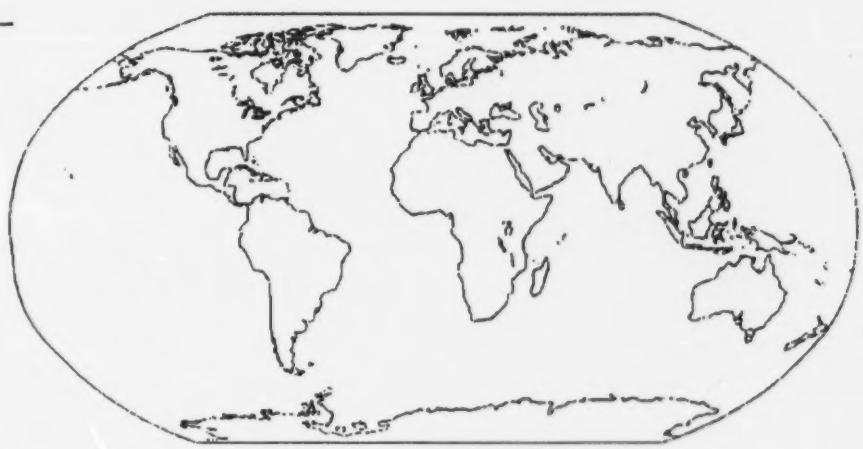
THE WORLD

Draw the equator.
Draw the Tropics of Cancer and Capricorn.
Shade in the tropics.
Color in at least two rain forest areas.



Embassy Addresses

Brazil
Fernando Affonso Collor de Mello
3006 Massachusetts Avenue Northwest
Washington, DC 20008

Costa Rica
President Rafael Angel Calderon
1825 Connecticut Avenue Northwest
Washington, DC 20009

Ecuador
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Adm. Didier Ratsiraka
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New Guinea
Queen Elizabeth II
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President Marshal Mobutu
1800 New Hampshire Avenue Northwest
Washington, DC 20009

World Food Day

Grade/Course/Subject: 9th

Abstract

Developing responsible adults of a pluralistic society is one of the missions of Lincoln Public Schools. The ninth grade team teachers at Goodrich Junior High have taken that mission statement and acted on it.

World Food Day, October 16, recognized by the United Nations and over 140 countries internationally was the basis for the unit developed and presented to the students. October 14, 15, and 16 were designated by all of the teachers to emphasize world hunger. Students were exposed to many aspects of world hunger. They defined the three economic worlds; they investigated world food sources; they looked at living conditions; and with the World Food Day Banquet on October 16, they experienced hunger!

All of the activities include objectives, materials and instructions for hands-on activities that enrich the regular curriculum. The World food Day unit was a consciousness-raising experience for all.

Description

"To foster development of self-forming individuals who take action to improve conditions for the family and society." This is the curriculum goal from the Nebraska Home Economics Curriculum that we chose to emphasize with the World Food Day project. The objectives of the activities incorporate middle level education and home economics standards which include the following:

To identify some of the factors that contribute to world hunger.

To know that there is enough food for the world, but people are hungry because they are poor.

To understand that hunger is not only a global issue, but a local issue.

The teacher objectives are as follows:

To make students aware of food consumption patterns as they exist in the world.

To encourage active participation in alleviating world hunger.

Activities

World Food Day Banquet

The Hone Economics Classes planned and prepared a banquet to emphasize the food consumption patterns of the World.

Students used information from the United Nations Food and Agriculture Organization to determine the percentage of persons on each continent and to determine their main source of food. From that information we planned the menu and serving requirements. Several days of planning and preparation went into the project for the final banquet. What resulted from that planning was that on the day of the banquet, each ninth grader selected a ticket before entering

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Goodrich Junior High
Lincoln, Nebraska

Karen Cocozza has taught Home Economics at Goodrich Junior High since 1982. She has a Bachelors degree in education from Ball State University, Muncie, Indiana, and a Masters degree in education from Purdue University, Lafayette, Indiana. Prior to moving to Lincoln, she taught Home Economics in Indiana, New York and Georgia.

Tim Bayne
Goodrich Junior High
Lincoln, Nebraska

Tim Bayne is in his eighth year of teaching Social Studies at Goodrich Junior High. He received his Bachelors of Science in Education from the University of Nebraska-Lincoln in 1983.

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Cheryl Graves
Goodrich Junior High
Lincoln, Nebraska

Cheryl Graves graduated with a bachelors of Science degree in Secondary Education from the University of Nebraska-Lincoln in 1985. In 1986 she accepted a teaching position at Goodrich Junior High in Lincoln, Nebraska. She is currently teaching ninth grade English at Goodrich and pursuing a Masters degree in Curriculum and Instruction.

Jane Obbink
Goodrich Junior High
Lincoln, Nebraska

Jane Obbink is in her third year as a science teacher at Goodrich Junior High in Lincoln. She teaches Aerospace, Introduction to Biology, and Physical Science. Ms. Obbink graduated from UNL in 1984 with a Bachelors degree in biological sciences, and secondary certification from Arizona State University. Her Masters degree, earned in 1988 from Arizona State, is in secondary education.

the banquet room. They were instructed to be seated at a table where the flag in the center matched the color of their ticket. The students were seated and served as indicated on the chart below:

% of People	Continent	Food Served	On the Table
5%	North America	Ham Baked Potato Green Beans Salad Rolls Brownie	Tablecloth Napkins Flowers Dinnerware Flatware
15%	Europe	Veg. Soup Meat Salad 1 slice bread 1/2 potato 1/2 apple tea	Placemats Highgrade paperware Flatware
10%	Latin America	1/2 cup rice 1/2 cup beans tomato juice tea	Pink mat (paper) 2 glasses spoon paper plate
10%	Africa	Mashed potatoes bread tea	Yellow paper mat spoon paper plate paper cup
60%	Asia	1/2 cup rice tea	Green mat spoon bowl cup all paper

After the meal was eaten, a person affiliated with the City Mission spoke to the students about hunger in Lincoln.

Lesson Plan

I. Introduction

A. Explain that World Food Day is October 16. Students in over 140 countries will be studying the problems of food and hunger. Each country will have its own perspective on the food issue, but nations hope to work together to find solutions.

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B. Ask students how important they think food is. What other needs do they have? Be sure to distinguish needs from wants. Emphasize that of these needs such as shelter, clothing, etc., food is the most important.

C. In front of the class take a flowering plant and repot it in gravel. Inform the students you are going to water it with a thimble full of water and feed it with crushed cornflakes.

D. Ask students if they have ever experienced hunger. List responses on the chalkboard and then group them according to those that involve not having what you *want* (a snack) to not getting all you *need* (hunger/malnutrition). Draw attention to the plight of the repotted plant. It is suffering from *hunger*—that is, not enough nutrients: and *malnutrition*—the wrong nutrients for health. If this continues it will die from lack of nutrients, *starvation*, or succumb to a disease. People are the same way. Remind students that even if a person suffering from malnutrition returns to a balanced diet, permanent brain damage and stunted growth may occur.

II. How Many Hungry People are There?

A. Write 1 billion on the board. That is how many hungry people there are in the world. How many is that? Estimate the number of M&M's it would take to fill your classroom. There are 27,648 M&M's per cubic foot. For example, 1 billion M&M's would fill two "typical" classrooms (24'x41'x12') and two-thirds of another.

III. Where are the Hungry?

A. Explain that countries are often divided according to their economic levels.

B. Give each student a small sign with the name of a First, Second, or Third World country. (Be sure that the proportion of students in each group matches the world population percentages.) Rearrange the seating pattern in the room to reflect these groupings.

C. Distribute bags of M&M's to the First, Second, and Third World groups based on their percentage of the world's wealth. If you use 100 M&M's and have 30 students representing the different countries, you will distribute 56 M&M's to the First World, 18 to the Second World, and 26 to the Third World.

Write these statistic on the board:

	% Population	% Wealth
First World	17	56
Second World	9	18
Third World	74	26

Explain that you have distributed the M&M's according to the distribution pattern of wealth in the world. There may be some requests for the First World to share its bounty. Discuss ways in which this has taken place to a limited degree through aid programs and loans. Explain that this simulation was not intended to make the students feel guilty but to dramatize the unequal distribution of wealth in the world, an important part of the world food problem. Remind the students that there may be wide differences in distribution within each group too.

Students enrolled in elective sciences (Aerospace, Biology, Physical Science) were exposed to various scientific topics that relate to World Food Day.

All students saw an 11-minute video entitled "End Hunger". Produced by the CARE Organization in 1989. This video served as an introduction to the enormous world hunger problem as well as distinguishing the differences between famine and chronic persistent hunger victims.

In Aerospace students studied satellites. They learned about the many types of satellites and how satellites are helping the third would countries overcome some obstacles through educational programs. Students read about NASA's involvement with World Food Day and learned about recent satellite technologies aimed at increasing food production.

Physical Science students were exposed to technologies such as satellites, water distillation, and agricultural improvements that assist in giving third world populations the opportunity to end their own hunger.

Biology students studied the physiology of malnutrition and starvation. We discussed starvation and its protein-consuming effects on the body, and the stunted growth/lack of energy effects within people who do not get adequate nutritional requirements. Dr. John Yohe from the Institute for Sorghum and Millet at the University of Nebraska-Lincoln spoke to students about the Institute's crop research in third world countries. Dr. Yohe's talk centered on scientific research aimed at producing better crops through plant breeding and biotechnology, as well as obstacles to crop improvement.

Additionally, Dr. Yohe's talk provided the students with a cultural awareness through many slides taken in African research plots and of African people. Biology students also gained an awareness of what scientists in their hometown are doing to overcome world hunger.

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Shadowing Occupations for Mathematics Use

Abstract

This project gave students the opportunity to make the connection between the math they study in the classroom and the math that is used in the business world on a day-to-day basis. Two or three students "shadowed" a business partner for several hours on a given day.

This project was significant because parents helped by contacting businesses to encourage them to be shadowing partners.

In addition to professional staff, 250 students, 103 business partners, and 60 parent volunteers helped with the project.

Project Description

For this school year, we wanted our seventh grade students to make a connection between the math they learn in school and the math that is used in the work place. We thought one way for this to be accomplished would be for students to follow someone in the work place for several hours. This way they would have an opportunity to see first hand how math is used. The steps that follow show chronologically how the project progressed:

1. Set a date (October 8) for a pilot group of two classes (we each had one class the same period) of forty students.
2. Decided that we did not have the time to make the contacts to the businesses but that maybe parents would.
3. Informed and encouraged parents at the Seventh Grade Orientation to participate in the project. Parents filled out an "Intent to help form."
4. Scheduled a volunteer meeting the first week of school. Parents volunteered to head the project and to begin the contacting of businesses.
5. Met the following week, talked about deadlines and contacts already made. Parent volunteers felt that with the positive response they had received, we should try to accommodate all 250+ students in seventh grade. Two or three students would shadow one occupation.
6. We met with our two seventh grade teams to inform them that all seventh grade students would be involved. English teachers believed that students needed to make the connection between math and English, also.
7. English teachers began developing materials and plans for writing thank you notes and personal narratives.
8. Math teachers began developing research materials and guidelines for oral presentations to student peers.
9. By September 15, over 100 business partners had agreed to participate.
10. Letters were sent by parent volunteers to confirm the business participation.
11. The business partners were divided among the math classes, so that students could make a choice.
12. A letter explaining the project and a parent permit slip were sent home with the students. In addition, more parents were asked to help drive.
13. Math teachers matched students with a business partner.
14. The week prior to the shadow, a letter was sent to the business partners informing them whom to expect and what to expect.
15. Parent volunteers worked on the transportation schedule. This was a very orchestrated task with groups of cars leaving every ten minutes.

Arlene Rea
East Junior High School
Lincoln, Nebraska

Arlene has taught seventh grade mathematics at East Junior High for four years. She previously taught at Hastings Junior High, Central Community College at Grand Island, and Irving Junior High in Lincoln.

She is a member of the core committee of "Expanding Your Horizons", a conference for girls, emphasizing math and science.

Arlene was chair of the American Association of University Women's (AAUW) Teleconference Roundtable for Educational Equity which was held January 30 at ETV on UNL Campus. She is currently the state AAUW coordinator for gender equity.

Lori Norris
East Junior High School
Lincoln, Nebraska

Lori graduated from the University of North Colorado in May of 1990. Immediately after graduation, she taught summer school in Rock springs, Wyoming.

This is her third year of teaching at Lincoln East. Her assignments include seventh grade mathematics and Junior High Algebra.

16. The week before the "day", students researched and prepared for the job they would be shadowing.
17. Shadowing Day, Tuesday, October 8.
18. The day after, students informally shared their experiences and completed a questionnaire.
19. For the rest of the week, students worked on thank-you notes and personal narratives in English class and prepared for their oral presentation in math class.
20. Parent volunteers sent a thank-you note to the business partners with a questionnaire to be returned.
21. Students sent thank-you notes.
22. Parent volunteers sent a letter to the parents, accompanied by a list of all participating business partners.
23. We met to assess the project.

The information that follows gives a more detailed description of specific areas of the project.

OBJECTIVE 1:

Seventh grade math students will make the connection between the classroom and the world of work by shadowing one occupation for two to three hours to learn that mathematics is necessary for that occupation.

Because of our ever-increasing, highly technical world, it is vitally important that students, particularly at the middle level, realize that mathematics is a necessity in the work place. In order for students to make the connection between the classroom and the future of work, students need to experience, first hand, how mathematics is used on a day-to-day basis in a variety of occupations.

Students learn best in a one-on-one basis. Two or three students per occupation is recommended. (More than three students cuts down the individual time given per student and less student involvement.)

Students were asked to rank their first three choices out of a pre-arranged list of occupations. (SEE OBJECTIVE 2.) Every attempt was made to match a student with one of their three choices.

OBJECTIVE 2: Parents will help develop the project.

Because of the amount of time necessary to put together a project of this magnitude, parental help was crucial. Parents were informed of the project and encouraged to volunteer at the Seventh Grade Orientation which was held the week prior to the fall semester. A volunteer meeting was scheduled the first week of school to begin the process. A total of 80 parent volunteers assisted in the following ways:

1) Agreed to be a "shadowed" business partner.
2) Provided transportation.
3) Organized the project, excluding the classroom activities.
4) Contacted and received commitments from the various occupations.
5) Sent three letters to the business partners, one to confirm, one to give last minute information, and one to thank them for their help.

6) Sent a survey to the partner, with the thank you, after the event to ask for their input. A self-addressed stamped envelop was enclosed to return the survey.

7) Organized the transportation schedule. Parents and teachers provided all transportation.

8) Sent letters home to parents, thanking them for their cooperation. A list of all sites visited was included.

OBJECTIVE 3: The community will provide the on-site classroom.

As the parent volunteers began calling to ask businesses and individuals to participate, the response was so overwhelming that the parents became energized. The original plan was to do a pilot group of about 40 students (15 occupations) the first semester. After one week of calling, the parents had over 50 businesses committed to the project. Within the next two weeks, the 103 occupations needed to insure that no more than three students would follow one individual, was confirmed.

Each business partner, in its own unique way, provided excellent experiences for the students. Students entered data into the computer; measured for new home construction; went to an accident site, then measured and figured data for insurance claims; ran a cash register; checked in merchandise and stocked shelves; appraised jewelry; learned how cosmetology involves geometry (hair cutting); developed budgets; figured work schedules; computed body surface area with an oncology physician; learned about the binary system of the computer; learned how to plan for a radio program taking into account commercials, talking time, and music; converted stock market prices, which are given in fractions, to decimals.

OBJECTIVE 4: Students will learn that mathematics is more than just numbers and computation. It is problem solving. It is research. It is both written and oral communication.

Before the actual shadowing day, activities were implemented:

1) Math Class: We showed the video, "Math, Who Needs It," a one-hour program shown on PBS, featuring mathematics teacher, Jaime Escalante. Five worksheets accompanying the video were assigned.

2) Math Class: We spent two days in the media center doing research. Each student was given his/her assigned occupation. The first day, students researched pertinent information about their occupation, according to Nebraska statistics (salary, type of education needed, number of jobs in the state, and future job availability). The second day of research was more extensive. The students used a variety of resources to determine what math classes would be needed, how much education was needed, what the job actually entailed. (SEE ATTACHED MEDIA CENTER CAREER RESEARCH, SUPPORT MATERIAL A.)

After the shadowing experience, the following activities were implemented:

1) Students completed an interview with the business partner. (SEE ATTACHED CAREER SHADOWING INTERVIEW, SUPPORT MATERIAL B.)
2) Math Class: Students completed surveys about their experiences. Experiences were very favorable.
3) English Class: Students wrote a narrative of their experience. Students wrote thank-you notes to the business partners, the drivers, and the parent volunteers.
4) Math Class: Cooperatively, the two or three students who went together prepared and presented a five minute speech. Students used a variety of visual aids to describe how math was used. Presentations were video taped.

Summary

All seventh grade math and English teachers participated in this project. The media specialist played an active role by assembling resources for the research.

With over 250 students, 103 business partners, and nearly 60 volunteer providers of transportation, one would expect several "glitches". Thankfully, we had only a few: 1) One group of students went with an attorney to watch a court proceeding. The proceeding involved the parents of a friend of one the attending students. 2) Because ofextenuating circumstances, one firm combined several of the scheduled groups into one larger group. It was not the best experience, because the time spent became more like a tour, rather than a hands on experience. 3) Even though the business partners were reminded one week before who was coming and when, several did not look at their mail and were unprepared. But each was still able to provide valuable experiences.

Many good things were observed:

1) Students now have a greater appreciation of how math is vitally necessary in the work place. (SEE STUDENT QUOTES, SUPPORT MATERIAL C.)
2) Parents of students at the middle level want to be involved if given the opportunity. Parental comments have been very favorable.
3) The business community wants to become involved with the education of our youth. The follow-up surveys indicate a willingness to help again. (SEE BUSINESS PARTNER QUOTES, SUPPORT MATERIAL D.)
4) When educators, parents and the community work together, students benefit.

In summary, we felt it was a valuable experience. The parent volunteers want to organize the project again for second semester. Because of their foresight to perfect the model, it is their/our hope to be able to implement the project in future years.

In addition to the above stated support materials, we have available upon request copies of the letters sent to parents and businesses, as well as other classroom materials.

SUPPORT MATERIAL A-1

1991 CAREERS IN NEBRASKA
STUDY GUIDE

NAME(S) _____

CAREER _____

1. Read top of page 26. Find occupation (pages 26-31.)
What is the projected employment growth for Nebraska? _____
What is the beginning annual wage? _____
What training is needed? (Refer to top of page 26) _____

2. Read "8 Keys to Employability," page 21.
Choose three skills (keys). Tell why the skills are needed for your occupation.
Under which categories would math skills be included? _____

_____

_____

_____

3. Read "Job Hunting Suggestions," page 32.
How could you find out about openings in the occupation you are shadowing?
Where could you get a written job description for your occupation?

_____

_____

_____

4. Skim "Financial Aid Programs." pages 13-21.
Write the full name for the following:

BIA _____

DWSP _____

PLUS _____

NSL _____

SUPPORT MATERIAL A-2

MEDIA CENTER CAREER RESEARCH

25 points

NAME(S) _____

CAREER _____

Determine the following items about the career.

1) What math courses should I take in high school. _____

2) Will I need to go to college? _____ How many years? _____

Will I need a degree? _____

3) Will there be a job for me after I have completed training? _____

Where? _____

4) What is the beginning salary? _____

Average after 5 years? _____ 10 years? _____

5) Are there advancement opportunities? _____ If yes, what? _____

_____

6) How will I use math in this career? _____

7) Why would this career be good for me? _____

SUPPORT MATERIAL B

CAREER SHADOWING INTERVIEW

GROUP MEMBERS:

1. Professional's name: _____
2. Job description: _____
3. Company: _____
4. a) What math classes did this professional take in high school? _____
   b) Is a 2 year, 4 year, or 6 year college degree a requirement? _____
5) How does this professional use math in his/her work? _____
6. What are his/her goals? _____
7. What does this professional foresee in the future concerning his/her chosen career?

_____

Will it change? _____ How? _____

SUPPORT MATERIAL C

STUDENT QUOTES

"I really didn't know what you did before yesterday. Love from you favorite child, Jason."

"There were many ways I saw math being used such as in the lab, mixing drugs, giving the drugs out, finding BSA (body surface area), taking blood counts, billing, accounting, and on the computers...Thank you for lunch. Sincerely, Scott."

"I think it would be interesting to be an advertiser. You made up my mind; I'm going to be a commercial artist.. Thanks again for all the effort; that was a day I will never forget! Sincerely, Deidre."

"I really enjoyed my shadowing experience at State Farm. I enjoyed going to different intersections and taking pictures of stop signs and other things. I also like taking measurements and timing the stop lights...Sincerely, Jeff."

"I'm glad I learned about this job (building contractor). I didn't think it would be very neat, but it turned out to be fun. It's interesting to see how many people go into just doing one think. The people, money, and the land. Ordering supplies, interviewing other people, and always being on the move sounds like a difficult task... You've made my report easy and fun to write. I thank you once more for everything! Sincerely, Chris."

Although you (Firstier Bank officer) didn't use math that I really saw, you probably used it on the computer. I bet the computer is a real handy thing. I'm sure it's easier than keeping things in a drawer or in a file...Thanks for the calculator. I received it yesterday. It's neat! Sincerely, Justin."

"I saw math being used in many different ways, like the schedule, the books, and the computers. Sincerely, Todd." (Describing a media specialist at an elementary school.)

"I learned what an appraisal was and how to make a ring. I also learned how to balance the cash register. I also learned that you don't make that much more money even if you have a company that has products worth a lot of money. Sincerely, Brenda."

"I saw math used transferring money safely from one bank to the other. I also saw how the police use math to estimate milage so they can meet each other on the highway. Sincerely yours, Courtney"

"I saw math in mostly all areas of work like weighing mail, and I would like to be able to see that again. I also saw it used when you look up countries on the computer to find the 1st, 2nd, and 3rd class prices of mail being shipped to different places in the world. Sincerely, Mike"

"I was surprised how many math job skills you had to use such as the angle of the hair, the angles of perming, and the convexity and concavity in perm rods to use...Thanks for letting me come. I enjoyed missing school and visiting you. Thanks for the samples that you gave me. Most of all, thanks for your time and efforts. THANKS! P.S. Have a happy Halloween! If you have time please write me. I like getting letters! Sincerely, Jill"

SUPPORT MATERIAL D

BUSINESS PARTNER QUOTES

"...I am pleased to see junior/senior high education place a priority/emphasis on math skills. I would also suggest the same increased focus be applied towards *reading*. English grammar and speaking abilities are poor in the general/average graduating (high school) student."

"Expand the program to include not only math but human service agencies that touch our daily lives. Thank you."

"I think this was a good experience for the students. I think parents should be more aware of what their children need to know what they do every day it helps to open communication."

"Renewed my interest as a math major in college—hopefully opened their eyes as to how much math there is in the "real world" with practical applications daily. I personally am pursuing the mentor program—would love to assist math students in learning."

"With children of my own from 1st to 9th grade it's a good feeling to see schools do something like this. There are times when you wonder if the students understand they are learning something that will help them in life. I hope we helped the two students who were here...I look forward to doing this again and hope to show the students even more. Both students were well behaved and a pleasure to be around."

"As I stated on the telephone when we set this up, "If I'd have known I would use math to make my living I would have paid attention in school..."

"I didn't realize how much math is used in our division on a regular basis—an to think that I chose history as a career in order to avoid having to deal with math!" (Archivist at Nebraska State Historical Society.)

"The program is very good. We at Cushman believe there is a strong need for students to learn sooner than graduation what the workplace is really like."

"This was my first experience and I gained insights on what I will add to the process should I do it again. It is our responsibility to inspire our youth. I would enjoy an overview of what all students did—what worked well and why."

"I was a struggling math student throughout school. A practical experience such as this could have provided some motivation for me to try harder."

"...let us know before hand what the kids have been studying so we can implement what we are doing directly to their studies."

"Several LIBA members recently participated in your East Junior High math class shadowing project. We wish to commend you for your efforts to bring students into a real business experience. Our members expressed a positive interaction and hope you will consider expanding the project in the future. ...Business and schools need to cooperate in order to prepare students with job ready skills and an understanding of what it takes to be employed successfully. Respectfully, Fred Duven, President, Lincoln Independent Business Association."

Teaching Geometry Outdoors: Lab Ideas for High Schools Teachers

Grade: 9-10 grade Geometry Students

Abstract

To make geometry more meaningful, outdoor lab problems were collected by two teachers at Ralston High School. The activities produced results showing that geometry became not only meaningful, but also memorable for students.

The school yard is both a natural and inexpensive place to make math vivid for students. The activities can be done with the minimal equipment requirement of a 50 or 1000 foot tape measure and six landscape spikes for each small group. Included are summaries of six of the most successful ideas.

Overview

Outdoor lab activities began in our geometry classes because it was a fun way to teach (or learn) a concept. The physical activity was a welcome change for all. Using the school yard was an inexpensive way to make math meaningful. With minimal equipment the lab activities can provide concrete examples of how geometry can be applied. A set of tape measures and landscape spikes will prepare the class to try these teacher-tested problems.

Each problem-solving venture can be introduced in the classroom and expanded to the outdoor setting. Lessons begin with minimal instructions to encourage creative problem solving strategies. This creativity is not limited to the top students. It has been observed that many students who typically struggle in the classroom become leaders in this setting.

An informal evaluation of these activities has shown that this is one of the most memorable parts of the course. Student comments at the time or even several years later attest to the fact that these concepts will not easily be forgotten. New students hear from former students that "this class will be fun."

Rationale

Listed below are some of the many positive aspects we noted.

1. There is more retention when learning takes place in a concrete or hands-on way.
2. Leadership is developed.
3. Problem-solving is encouraged by the very nature of the activities.
4. Communication skills are strengthened as students justify their ideas in a cooperative setting.
5. The students bond as they share a common enjoyable experience.
6. the problem-solving allows for a transfer of learning to take place from the classroom setting to a more real-world setting.

Summary of Some Outdoor Lessons

The Treasure Hunt

The object of this activity is to use geometric clues to determine the location of several nails hidden in the school yard. The nails are sunk into the ground so that only the heads are visible. In order to discourage random searching and encourage the use of knowledge about "locus of points, a rather large area is used.

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Omaha, Nebraska

Linda Hayek received a BS from UNL in 1972. She also earned an MA in computer Education from Lesley College in 1986 and an MA in Math Education from UNO in 1988. Honors include the NEWMAST award in 1991 and honorable mention for the Presidential Award for Excellence in Science and Mathematics Teaching (1990 and 1991). She is currently in her 19th year of teaching at Ralston High School.

Thomas E. Mruz
Ralston High School
Omaha, Nebraska

Tom Mruz received his B.A. from UNL in 1971 and has received his M.A. from UNO in 1981. He has taught at Ralston High since 1979.

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The students are provided with clue sheets and two tape measures for each group of 4 or 5 students. "One treasure is equidistant from points A, B and C" is one example of a clue. The points mentioned in the clues are marked outdoors by tacking signs to trees, posts, or other landmarks. The students are then shown a simple nail (treasure) so that they know what to search for and are given time to find as many as possible.

It is interesting to listen to students discuss concepts such as perpendicular line and angle bisectors. More interesting is the creative way these points are located by the students.

Students successful at finding the "treasures" are able to exchange them for a treat at the end of the period as we discuss problem solving strategies. To continue the learning the students might plan another such hunt for other groups.

Kite Flying

A very natural application of the Sine and Cosine functions of right triangle trigonometry is the kite flying experience. Each group of three students brings to school a kite and a roll of string with a known length. The class period of a nice spring day is devoted to flying the kites and computing the height of each kite and the horizontal distance from the flier. A simple device (See sketch) which can be made by the students is used to measure the angle of elevation. Students compete for flying the "highest kite" and try to see how far away a kite can be flown. When students cooperate by sharing string, it is possible to aim for a particular landmark. The main point is that students are able to apply the curriculum to a task of current interest. The concept will never be lost. Students remember fondly the kite-flying from Geometry class.

Scale Drawing of the Student Parking Lot

Students are supplied with graph paper, rulers, and tape measures and are given the task of making a scale drawing of the student parking lot. There is enough detail to make the task interesting without making it overwhelming.

An appropriate scale must be determined in order for the drawing to fit on a sheet of paper and the problem of measuring a relatively long distance with a 50 foot tape measure must also be addressed. It is interesting to see how students work together to save time and energy. Some very unexpected leadership roles sometimes emerge. Students who have been typically quiet often feel very comfortable in a hands-on situation such as this.

To get students to observe numbers and make decisions, the following problem is posed:

While camping along Lake Itchyskotoe, a camper notices that his tent is aflame. A bucket is located away from the tent and the lake. What would be the shortest distance to run with the bucket, assuming that he must run to the lake to fetch the water and carry the water back to the tent to douse the flame?

Students are given a 100 foot tape measure in a simulation outdoors in order to test their hypotheses. A straight curb represents the lake. Landscape spikes are used to represent the locations of the tent and the bucket.

One technique which is discussed is numerical analysis used in the typical trial and error method tried by most students. Other topics include mathematical induction, angles of reflection and incidence and proof.

The Swamp Problem

This activity reinforces the concepts of congruent triangles and their corresponding congruent parts. It can also be adapted to use with similar triangles when it is not practical to measure long distances. It has been tried as a classroom problem as well as an exercise in the snow in December. Both approaches work equally well.

Find the distance across the swamp without measuring the swamp directly.

Tape measures and landscape spikes (5) are needed for each group. Rubber snakes are optional, but they do create a realistic atmosphere.

Staking a Perfect Rectangle

A few years ago, a graduate called to ask how to lay out the footings for a new building. We've done it ever since as a class. An important aspect of the problem is **not** to give any hints. the students are able to draw from their geometry background when given the opportunity.

An early activity would be to stake a parallelogram with equal diagonals. The students have a hard time with this. Oldtimers have been known to use this method, refusing to listen to the math teacher. After the introduction to the Pythagorean Theorem, students appreciate the ease with which they can now stake out that rectangle.

Support Materials

Diagrams for Geometry Lab Ideas

Angle of Elevation Measuring Device for Kite Flying Problem

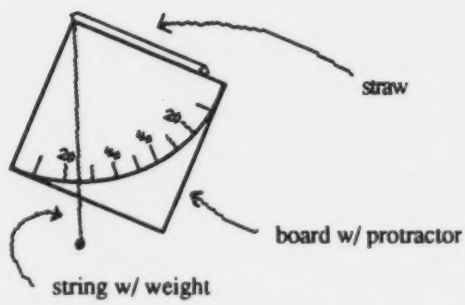


Diagram of Swamp Problem

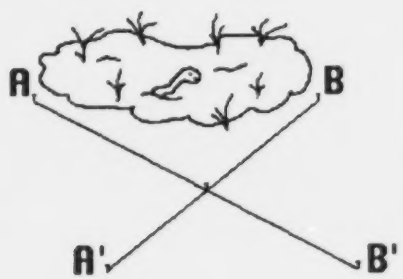
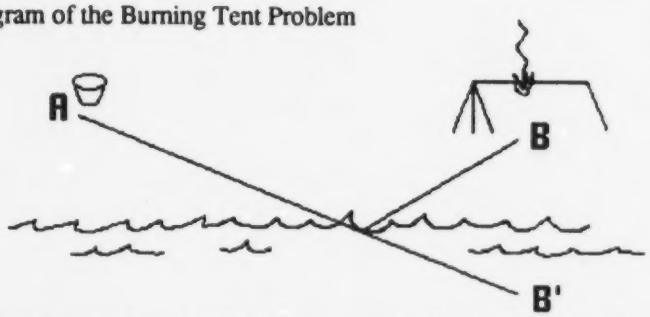
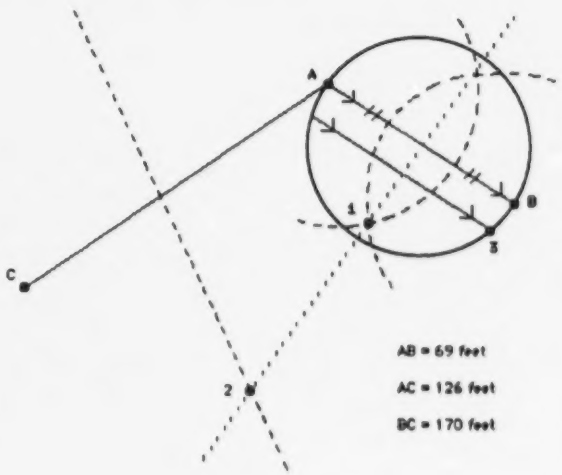


Diagram of the Burning Tent Problem



Shortest distance from A to B is the same as the distance from A to B', a straight line.

Diagram of a Sample Treasure Hunt



Student Clues for Above Diagram

Geometry Treasure Hunt
Student Clue Sheet

There are 'treasures' hidden in the school lawn. Below are clues to help you find them. Points A, B, and C are marked outside. Good Luck!!

1. One treasure is located a distance of 45 feet from point A and 48 feet from point B.
2. One treasure is equidistant from points A, B, and C.
3. One treasure is at a point X which is the vertex of right angle AXB and is 12 feet from the line AB.

Algebra for All

Grade: 9-12

Abstract

"It is crucial that all students experience the full range of topics proposed for the core curriculum"

By incorporating both concrete and abstract activities, students have equal access to interesting and applicable mathematical concepts. Using the concept of "Conic Curves", I have illustrated how teachers can answer the NCTM challenge of "Algebra for All."

Description

The National Council of Teachers of Mathematics (NCTM) has set Standards advocating that all students be guaranteed equal access to the same curriculum topics. As math educators address the need for all students to experience the full range of math topics, a logistic question continues to be a problem. The conic section is an area of study traditionally introduced during the second year of Algebra. For a large number of students, a second year of Algebra is not included in their study of mathematics and hence they are not introduced to the conic section. In order to meet the NCTM standards this tradition is no longer acceptable.

Because of this challenge, I have incorporated a number of activities intended for the introduction of the conic sections in a concrete and abstract manner. This differentiation of content allows all students the opportunity to have equal access to this interesting and applicable mathematical concept.

Activity 1: Human conics
Skills needed: Understanding of distance
Materials needed: Long piece of heavy string or rope
Procedure: Gather the students in a large open area (gymnasium, parking lot, etc.). Read the definition of a specific conic. Identify a student(s) to respond to represent specific points (center, focus, etc.) and a quantity of string to represent specified distances (radius, etc.). Have remaining students place themselves as points that satisfy the definition on the identified conic.

This activity is a nonthreatening way to introduce the set of points that represents an identified conic. Students of all abilities begin to visualize the relationship between the shape and the various parts of the definition. For example, the shape of a parabola is very narrow if the focus is close to the directrix. Yet another example is that an ellipse is very oval if the distance between the foci is reasonably large.

After a circle has been formed, have a student count how many "paces" around the circle. Repeat this process a number of times (assuming students are using different size paces). Have the students divide the circumference value by the diameter measure. They should end with a number close to "pi". This is an excellent exercise to help students understand that "pi" is not based on a particular unit of measure.

Activity 2: Wax Paper Conics
Skills needed: Knowledge of the conic shapes
Materials: Wax Paper

Helen Banzhaf
Seward High School
Seward, Nebraska

This is Helen Banzhaf's 18th year of teaching at Seward High School. She has a B.A. and M.A. from Concordia College, Seward, Nebraska and a M.A.T. from the University of Nebraska-Lincoln. She was the 1990 Nebraska Presidential Awardee for Excellence in Teaching Mathematics and President-Elect of the Nebraska Association of Teachers of Mathematics.

Procedure: Divide the class into groups of four or five. Give each student a sheet of wax paper (9' by 11" works nicely). For the parabola have a line drawn across the 9" end of paper near the edge. Have all students position a point on their individual pieces of paper, but have one student in each group place a point 1" from the line, another student 1 1/2" from the line, another 2", 2 1/2", etc. Have the students fold their papers so that an arbitrarily selected point on the line and the student-placed point coincide. Then crease the paper. Have the students continue positioning different points from the line over the student point and creasing. This must be done numerous times selecting points from all along the original line. Once completed, have the students discuss the newly formed shapes on their paper.

For the ellipse, have the students (or yourself before class) trace a circle on the wax paper nicely centered on the paper. Every student in the group should have the same size circle. Have one student in each group place a point just interior to his/her circle (1/4" inside the circle). Assign different placements for the point for each circle (1/2", 1", 1 1/2", etc.). However, have the last student in each group place the point on the center of the original circle (good eye approximation is adequate). Have the students begin creasing the wax paper by positioning a point from the circle over the student-placed point on the paper and creasing. They are to continue the creasing procedure until they have positioned points from various locations all along the circle, similar to the activity with a parabola.

For the hyperbola, follow the same procedure as for the ellipse. However, the student-placed point should be exterior to the original circle, again placing the point at various distances from the circle (1/4", 1/2", 1", 1 1/2", etc.).

What excitement as the students see their conic sections appear! Why are some parabolas narrower than others? Why were some ellipses very narrow and some look just like circles? Is a circle an ellipse? Doesn't an ellipse have two foci? Were either of the foci positioned on the wax paper? It doesn't take long for the students to guess the center of the original circle and the point placed by the student on the wax paper are the foci of the ellipse and hyperbola. This discussion can occur with general math students as well as pre-college math students.

This is an excellent place to remind them of the human conic activity. The two activities help students verify the relation between the shape of the conic and various parts of the definition.

Activity 3: Conic Shapes We See

Skills needed: Knowledge of conic shapes. Extension: Ability to write equations of the conics.

Materials: Graph paper

Procedure: Assign students to work individually or in groups of two or three. Each individual or group is to draw a picture of a realistic occurrence. Each picture must contain at least one example of each conic.

Examples: Hyperbolic tree trunks. Clown faces having conic features. Elliptic race tracks. McDonald's Golden Arch. Parabolic light reflectors.

Extension: Students must coordinate the graph and write the equation of each conic represented in the drawing.

Many shapes students see daily have the appearance of a conic. This awareness helps the student see the importance of using conic equations to model real occurrences.

Activity 4: Parabola Experiment

Skills needed: Knowledge $y = x^2$ is a parabola. Understanding of Cartesian graphing. Ability to use appropriate computer software or graphics calculators such as the HP48S.

Materials: Necessary technology

Procedure: Follow the scientific method of research.

1. Identify the question: How does the value of "a" in the equation $y = ax^2$ affect the graph?
2. Make conjectures.
3. Conduct the experiment by collecting data. Have the students graph numerous equations allowing "a" to be positive, negative, an integer value, and a fractional value.
4. Conclusion: Have the students compare the graphs collected in their data to the graph of $y = x^2$ and reject or accept their conjectures made in step two.

To check their understanding of the concept, give the students a set of equations and have them predict the graph each would make. Also, give them graphs and have them predict the equations which caused them. Have them check their predictions by using the calculator or computer. If the human conic activity or wax paper activity has been used, refer back to them and discuss the relationship of the number "a" to the distance between the focus and directrix.

Extensions: Have the students do similar experiments such as $y = x^2 + c$ where the value of "c" changes. Have students conduct experiments on other conic equations.

By using technology, even the students with minimal arithmetic speed can graph numerous equations. The level of frustration is lowered, the time restraints are removed and the "math lab" offers the opportunity for **all** students to enjoy the **power** and **beauty** of algebra. This activity allows students of varying ability to realize that graphing is not just plotting points. Mathematicians can look at algebraic statements and identify behaviors before graphing. Likewise, mathematicians can look at a graph and begin predicting the algebraic sentence that would describe the picture, the beginning process of modeling real world occurrences through mathematics.

Activity 5: Uses of Conic Equations

Skills needed: Library and composition skills

Material needed: Library resources

Procedure: Students write an essay illustrating at least one real world application of each conic equation.

Example: Circle equations are used to describe the path of a pivot irrigation system. (Agriculture.) Parabola equations are used to solve problems involving maximizing profit. (Business.) Ellipse equations are used to describe the orbits of planets. (Astronomy.) Hyperbola equations are used to locate the position of submarines. (Military.)

In summary, activity five answers the question "Why should **all** students experience the full range of mathematical topics?" Schools must insure that all students have an opportunity to become mathematically literate and capable of understanding issues in a technological society. Both concrete and abstract activities such as the above will be the key to accomplishing the goal of the U.S. student competing internationally.

Creating Student Awareness Through the Scientific Study of AIDS

Abstract

The scientific study of AIDS was a cooperative learning activity conducted during the 1990, 1991 and 1992 school years at Maywood Public Schools. In this activity, students learned through professionals and classroom instruction the causes and effects of the disease. The activity created student awareness based on learned scientific knowledge which promoted empathy for and identification with the victims of AIDS. It motivated the students to raise money to assist these victims and to bring an innocent AIDS victim to the school to further student understanding of the AIDS victim and his family. The project provided means for community education as well as student learning.

This format develops skills in writing and oral communication, money management, and math, as well as content acquisition.

Shirley H. Hansen
Maywood Public School
Maywood, Nebraska

Shirley Hansen holds a B.A. and M.A. from Kearney State College. She has taught intermediate students for twenty years at Maywood Public Schools. She has taught elementary science sixteen years.

Narrative

Advances in science are occurring at a rapid rate. Student awareness, as well as public awareness, does not change with the advances. Teachers can no longer rely on changes in students' knowledge or social awareness to be brought about by books that are soon outdated.

It is important to help students make connection between classroom content and the effect on their lives. To change student philosophy, it is imperative to change the community philosophy. Therefore, community involvement was utilized.

Project Rationale

I had long been aware that very little correct information was known in our community and school about AIDS. Hysteria often accompanies a lack of education. I felt this project, creating an awareness of the disease based on scientific knowledge, was vital to our students' well being as well as vital to the innocent victims of AIDS.

The objectives were:

1. To gain scientific knowledge about the AIDS virus.
2. To teach compassion and understanding of AIDS victims.
3. To promote positive interaction among students, community, and AIDS victims.
4. To teach students and the community correct attitudes toward individuals afflicted with the disease should they become a part of our school and community.

Project Description

The project was implemented through five phases.

The first phase was implemented for 3rd and 4th grade students but could be used for anyone in levels 3rd through 12th.

I introduced to the students through discussion and a collection of newspaper and magazine articles the social problems of AIDS victims in various schools and communities throughout the nation. I found the discussions generated a lot of interest and positive student response. Many students brought in more newspaper and magazine articles as well as information they received from television. After a discussion of information students had received from their peers as well as from the public, we generated a list of possible sources of correct information.

BEST COPY AVAILABLE

Students also made a list of AIDS victims and made contact with them to gain an understanding of their needs and social problems. The approach provided a framework for student ownership of the project.

The second phase of the program after contacting the AIDS victims was to create a project that would generate funds to bring an AIDS victim to our community to speak about the disease and the problems resulting from public awareness of being an AIDS victim and to help the AIDS victims financially.

After discussion of various money-making possibilities, it was decided to make cookies and sell them at the basketball games. Money was borrowed from the local bank, comparative shopping was done, and ingredients were purchased. The cookies were made in the classroom and sold at the games. Chances on a giant cookie were sold. The recipe used was a prize-winning cookie recipe submitted by one of our own students. The cookie sale/AIDS project was highly advertised through the local paper, school paper, posters and radio announcements to increase sales and insure the success of the project.

The third phase of the program was to bring in doctors, nurses and State Department of Health-AIDS personnel to speak to 3rd through 12th grade students. Informative material on AIDS was received from the State Department and handed out to the Parent-Teachers Association. The community was invited to hear all speakers.

Films were shown and pamphlets were distributed appropriate to each grade level and to the community. Informational pamphlets were handed out at school functions to saturate the public with accurate information. Students as well as the community learned scientific facts that result in the breakdown of the immune system. Students and community learned that scientific technology has made advancement in the treatment of the disease. They were taught that only through the advancement of science technology will a cure be found.

The fourth phase of the project was to take the funds that were the profit from the cookie sales and purchase a round trip airline ticket for an AIDS victim, Mr. Bob Garre of Cincinnati, Ohio, so he could come to our school to speak to our students and the community about his life as a result of contracting the AIDS virus from a blood transfusion. A check was also given to him for his personal use. As a result of our science project on AIDS education, students showed a tremendous amount of empathy with Mr. Garre. Several groups met with Mr. Garre throughout the day and all questions were entertained. Because of the importance of the subject, Mr. Garre spoke at a neighboring school district.

The fifth and final phase was to create a Crisis Team within our school so if an AIDS victim did move into our school and community, we could take the information the students, teachers and members of the public learned from our Science/AIDS project and show a compassionate but wise interaction between the AIDS victim and our community.

After our students were saturated with scientific knowledge of the AIDS virus, I could see a change in attitude towards AIDS victims. Students would come by my room to discuss AIDS-related data. Several community members thanked me for conducting the project. I received a thank-you from the neighboring school district for helping "educate the students about the AIDS virus."

This is a project any school could use in its curriculum that results in great gain of knowledge and public awareness and satisfaction to students as well as the community.

Methods/Material Listing by Grade Level

Grades: 3, 4, 5, 6
Films:
Ryan White Story
Nebraska Educational Television
Inside Story Slim Goodbody

Printed Materials:
Nebraska Aids Project Hotline
Let's Talk About AIDS
Weekly Reader - AIDS, What Teens Need to Know
AIDS, What You Need to Know

Newspapers:
World Herald
Telegraph Bulletin
Cincinnati Inquirer (numerous articles)

Grades: 7, 8, 9, 10, 11, 12
Films:
AIDS, Changing the Rules
A Teenager's Story, I Have AIDS
Ryan White Story

Community/Teachers/Secondary Students
Films:
AIDS, the Test
AIDS Changing the Rules

Printed Materials:
U.S. Department of Education, AIDS and the Education of Our Children
Children, Parents, and AIDS
The American National Red Cross; Stock No. 329450, Nov., 1988
AIDS and the Safety of the Nation's Blood Supply
The American Red Cross, AIDS - 13; Jan., 1987
Drugs, Sex, and AIDS
The American Red Cross, Stock no. 329439, Nov., 1988
If Your Test for Antibody to the AIDS Virus is Positive
The American Red Cross, AIDS - 14, Oct., 1986
Making Sex Safer
The American College Health Association, Rockville, Maryland 20855

The Endangered Rain Forest - Students Making a Difference

Grade: 4, 5, 6

Abstract

Following a thorough, activity-filled study of the rain forest, students devise a plan of action for making a difference in their world.

Education Phase

Students plan and execute activities to educate schoolmates, parents, school board members, politicians, the public and other countries about rain forests: their importance, their destruction and what can be done about the problem.

Fundraising Phase

Students plan and execute activities to earn money for purchasing and protecting rain forest acres.

Project Description

Tropical rain forests are exciting places full of colorful birds, intriguing animals, bizarre insects and giant plants that capture children's imaginations. They also are disappearing rapidly. Over the last several years my students have frequently asked questions about rain forests and what's happening to them. The increasing media coverage of rain forest destruction has made this a timely topic. I decided to capitalize on this interest and use it as the basis for an extensive multi-disciplinary unit. Just how extensive it was to become proved to be a total surprise!

The unit began with a wide variety of activities designed to help students gain information about the following: the destruction of rain forests, resident plants and animals and their adaptations, rainforest medicines and other products, causes of rain forest destruction and the local and global consequences of that destruction, etc. Students worked singly and in groups. They used Language Arts, Computer and Library skills to do their research; Social Studies knowledge to do map studies. Math skills were needed to compare the temperature and precipitation of the rain forest to that of Nebraska and to figure profit and loss. They read library books and poetry about rain forests. My students especially enjoyed Lynne Cherry's *The Great Kapok Tree*.

They combined individual creativity and specific art techniques to invent and paint rain forest plants during art class. These plants demonstrated the adaptation concepts studied in science class. Students studied specific plants and animals to learn about interdependence. Student teams used their creativity and problem-solving skills to devise methods for getting into the canopy to do research. This was followed by watching a film showing methods that real rain forest researchers had devised for the same purpose. My students were delighted to see that some of their ideas were similar to those used by "real scientists". Students surveyed their own homes and families looking for rain forest products. They learned that their choices as consumers can have a direct impact on the rain forests of this planet. Each student used the computer to do a research paper about one rain forest product then made a presentation to the class.

Pamela S. Smith
Hawthorne Elementary
Hastings, Nebraska

Pam Smith has earned a B.A. in music education, B.S. in Biology and M.S. in Science/Math, from Kearney State College. She taught 7, 8, and 10th grade Science for eight years. She has taught Science for grades 4, 5, and 6 for 7 years. Her husband teaches industrial arts, and their sons are ages 8 and 12.

In the process of learning about rainforest destruction students read about the murder of a Brazilian rubber-tapper named Chico Mendez. In Language Arts class students performed a play titled "Death in the Rain Forest-The Story of Chico Mendez". As a result of their enthusiasm, several students wrote additional scenes for this play. Students also provided the costumes and props.

Sprinkled through these activities were films, slides, a speaker with rain forest experience, anything to make the sounds, sights and smells of the rain forest *real* to my students. I wanted them to *connect* with the rain forest.

Students brought large rain forest plants to our classroom and constructed a "jungle" wall hanging completely covering one wall of the room. This unit was truly "growing"!

By this time my students were so "on fire" about the rainforests that they were ready to TAKE ACTION. We sat down and brain-stormed together. What could 42 sixth grade students do about a global problem? After much discussion we decided upon two basic tasks: 1. Educate as many people as possible about the problems and what they could do to help the rain forests, 2. Raise money to **actually purchase** and protect rain forest acres from destruction. My primary objective for this unit was coming to fruition! I wanted my students to develop a personal sense of environmental responsibility, to attach personal *value* to the earth's natural resources, to see the inter-connectedness of all earth's systems. Now they were ready for the next step, to assume a leadership role, modeling environmental stewardship and to personally experience social/environmental "activism", discovering that they CAN make a difference in their world.

What followed was a whirlwind of student-generated activities lasting many weeks. It was all I could do to keep their enthusiasm at a manageable level.

For the Education Phase my students wrote puppet shows, skits, informational flyers and raps about the rain forest. All of these were presented in a series of programs for the 350 students at Hawthorne Elementary. My students also gave programs to the parent-teachers organization, the school board and some distinguished guests.

Large informational displays were set up at the local shopping mall and the school carnival. Included were the students' rain forest product research papers with display samples, a video of the sixth grade students presenting their program to younger students, World Wildlife Fund's "Rain Forest Rap' video, student-made flyers and posters and their Tree Top Explorers and Invent-A-Plant projects.

Students worked in their Computer and Language Arts classes to write letters to the presidents of all Western Hemisphere rain forest countries, President Bush, Governor Nelson, senators, representatives, school board members and the school Superintendent.

Every activity in the Educational Phase aimed toward answering these questions: What is the tropical rain forest? Why is it important to us? What's happening to it? How can **YOU** help protect it?

The sixth graders decided that all money earned in the Fund-Raising Phase would be sent to the Fish and Wildlife Foundation, Washington, D.C. who would match our funds then use the total to purchase and protect rain forest acres in Costa Rica. Ultimately, over $850.00 was earned by my students.

Their most lucrative fund-raising project involved making and selling lapel buttons with a variety of rain forest designs. Students designed the logos in art class then selected the eight best designs to mass produce. Students colored, cut and assembled the buttons. They determined the costs for materials, figured losses due to mistakes and set the price. Buttons were sold at school, the shopping mall, PTO and school board meetings and at the school carnival. They sold about 300 buttons. The sixth graders themselves bought many of the buttons!

Students sold raffle tickets for commercial rain forest t-shirts. They made baked goods containing rainforest products and put a label identifying those products in each package. Bake sales were held at school and the shopping mall.

A number of local individuals and businesses made donations of cash or merchandise. Students made donation cans and posters then distributed them to local businesses.

Several donations were received as a result of media coverage of the students' efforts. The project was covered by television, radio and the newspaper.

The U.S. Fish and Wildlife Service loaned us a confiscated Jaguar pelt to exhibit at our displays and bake sales. Thank you letters were written to all major donors. A school paper recycling program was established and maintained for the entire school year. Many students reported convincing their families to recycle at home.

My ideas and activities came from many sources. Some of these were Naturescope, Scholastic Magazine and the U.S. Fish and Wildlife Service. Some ideas were mine, many were the students'. No special equipment or materials were used. My most valuable resources were the enthusiasm and creativity of my students and we had plenty of both!

I have shared these ideas with teachers in my system, teachers who have called from other communities asking for help getting a rain forest unit started, and with teachers I've met and worked with at workshops and conventions. The activities provide meaningful application for skills acquired in other classes. Skills are always more valued and better internalized when learned and exercised "in context".

Many students need an opportunity to demonstrate skills not typically evidenced in a classroom. I witnessed the attitudes, enthusiasm, effort and self-esteem of a number of my students improve through their work in the creative components of this project such as writing puppet plays, skits and flyers; composing raps and sharing their knowledge with younger students and the public. This fosters an improved attitude toward science and school as a whole.

This unit provides an opportunity for students to practice being active, responsible citizens. They do this by studying a real world problem with multiple components (environmental, economic, human, ecological, political, technological, social, etc.) then problem-solving to find ways they *personally* can have an impact on that problem. These are America's future voters and policy makers. They need to know how and when to ask questions, to think critically, to make important decisions based on the evidence. Students are challenged to apply scientific knowledge and reasoning to the events of their own lives; to see that all things are interconnected and that science and technology must be used by man in *balance* with nature.

If we are to expect lasting protection of earth's natural systems we must provide opportunities for its future caretakers to acquire a high level of *personal* value for them. I believe that this unit fulfills that fundamental objective exceptionally well.

Free To Be A Healthier Me

Course/Subject/Grade: K-4

Abstract

Children can only eat what their parents have available and parents usually rely on their own likes and dislikes when deciding what their children will eat. If adults consistently advocate good food choices, children will begin making their own good choices.

This project spreads health and science across the curriculum and is developmentally appropriate for the primary grades. It introduces the student to the basic four food groups, then invites parents, through mini workshops, to explore with their children the adventures of good eating.

Project Description

The first overall goal of this science and health curriculum is to actively involve and educate students about the nutrition process providing a tangible, continuous and enjoyable exposure to the food they eat.

The second goal is to familiarize the students with the basic four food groups. Many children need between meal-snacks because they can not eat enough at mealtimes to keep going during active days. Nutritious snacks for children supply some of the vitamins and minerals, protein and calories that they may have missed at mealtime. Since the kindergarten child is at home for a longer period of the day they are faced with the opportunity to eat or snack more than the full day student and so it is important that this child be made aware of the food choices for better nutrition.

Children can only eat what their parents have available. Parents usually rely on their own likes and dislikes when deciding what their children will eat. They play a significant role in shaping their child's diet. Most of children's opinions about food come from their parents and other adults. The third goal is to hold four mini workshops (one for each of the basic food groups) where parent and child work side by side learning about and preparing a food. Please provide at least one evening session to accommodate working parents, especially dads. Cooking is a good way to keep communication between home and school open.

The format I am using for this science curriculum follows the early childhood guidelines endorsed by the Nebraska Department of Education. Our daily routine consists of Circle, Choice (plan-do-recall), Small Group and Large Group Time. My curriculum areas are interrelated because I believe most learning activities involve more than one of the processes.

I assess my students through anecdotal observations and by keeping a portfolio of their activities and work including a series of photos, stories dictated by them and recorded by me and a video summary of the year.

Four Food Groups: Fruits and Vegetables

Objective: The student will be able to identify fruits and vegetables. The student will be able to tell what part of a plant they are eating. The student will prepare foods from fruits and vegetables.

Juanita Baker
Lake Minatare
Minatare, Nebraska

Juanita Baker, her husband and two daughters live on a farm in Minatare. She has taught at Lake Minatare the last seven years and before that in Colorado. During the past fifteen years, she has logged thousands of hours of volunteer service especially in the areas of Camp Fire and 4-H. She is a member of the Nebraska State Education Association and the Association for the Education of the Young Child.

Procedure: Circle Time

1. Read *Johnny Appleseed*, web foods from apples, make applesauce. Make apple fruit leather. Follow up with *Little House with a Star Inside*, (cut an apple cross-section to reveal the star). Language, Classification, Spatial.
2. Fruit in different forms: compare by tasting and observation: canned pineapple, juice and fresh. Spatial, Language.
3. Read the Christmas passage from *Little House on the Prairie* where family exchanges home made gifts. Make pomander with lime, lemon, orange or apple and cloves. Language, Spatial, Number.
4. Read *The Big Turnip*, discuss, use seed catalogues to find other vegetables that grow in the ground. Language, Social, Spatial, Classification.
5. Read *The Hungry Caterpillar*, discuss metamorphosis, types of fruit, days of the week. Make a calendar that shows "one month in the life of a caterpillar". Language, Number, Seriation, Classification, Time.

Procedure: Plan-do-recall

1. Play game "Freeze" pretend to be leaves falling; when bell is rung they freeze and tell what they did during choice time. Movement, Spatial.
2. Place plastic fruits and vegetables in the house area. Representation.
3. Set up a supermarket in play area with empty containers, brown bags, play money. Language, Representation, Number.
4. House area: use vegetables or fruits to make kabobs, use repeating patterns. Number, Representation.

Procedure: Small Group

1. Purchase four of several fruits/vegetables. Students arrange by size. Seriation.
2. *AIMS-Fall into Math and Science*-Grapes to Raisins. Spatial.
3. Jumping Raisins-*Concept Cookery*. Spatial.
4. Place real or plastic fruits or vegetables in feely bag; have students identify. Spatial, Classification.
5. Examine and describe edible leaves based on size, color, texture, smell and taste. Record words on graph. Language, Spatial.
6. Grow it again! Replant citrus seed, carrot top, pineapple top, avocado seed. Observe and report daily. Language, Time.
7. Use paper bags with alphabet letter on each. Match fruit or vegetable's sound to the sack, or label one bag fruit and one vegetable. Match. Language.
8. Make leaf rubbing or leaf silhouettes. Spatial.

Procedure: Large Group

1. Tour Potato Processing Plant at Panhandle Station. Graph types of potato or the students' favorites. Number.
2. Grow mung beans in a jar, eat with sandwich or salad. Time, Spatial.
3. Take a walk, observe things from environment that could be edible. Spatial, Movement, Language.
4. Using a small stick let children try to dig up the roots of a weed. Have a carrot, radish or turnip for snack.. Spatial, Movement.
5. Trip to Supermarket: Make list, look for unusual fruits or vegetables, examine scales. Representation, Language, Movement.

6. Use webbing, students brainstorm foods from leaves, stems, roots. Language, Representation.
7. Read *Bipple's Magic Dandelions*, make dandelion jelly. Language, Representation.

Four Food Groups: Grains and Cereals

Objective:
The student will identify foods from grains.
The student will recognize corn, wheat, and rice grains.
The student will prepare food from grain.

Procedure: Circle Time
1. Bring in a bread box. Each day place a "mystery" loaf of bread in the box. Children guess what kind. Student with correct guess helps serve. Classification.
2. Read the *Little Red Hen*. Discuss wheat and where it comes from, list ingredients students believe is in a loaf of bread, then make Honey Wheat bread and compare recipe with list. Language.
3. Create a webbing with the word "wheat", record responses. Language.
4. Compose a song that tells the story about the hen and the wheat, make up movements to it. Language, Movement.
5. Discuss if Little Red Hen treated the animals justly. Social.
6. Summarize story through use of puppets, finger puppets, or flannel pieces. Language, Representation.
7. Bring in empty containers from foods made of different types of grain. Classification.
8. Read about the Earl of Sandwich, have a "Create a Sandwich" contest. Language.

Procedure: Plan-do-recall
1. Have students bring toy farm equipment from home for use in block area. Representation.
2. Children make play dough from wheat flour. Spatial.
3. Play drop the breadwrapper or cereal box, child who receives wrapper states what they accomplished at choice time. Movement, Language.
4. In Art area, make your initials using pretzel dough. Bake and eat. Representation, Spatial.

Procedure: Small Group
1. Make a picture book demonstrating the process of wheat. Time.
2. Thresh wheat by grinding between hand, blow chaff away. Spatial.
3. Grind wheat into flour. Spatial.
4. Make pop up bread in a can with no need to knead dough. Spatial.
5. Mix kernels of wheat, rice and corn. Students sort. Classification.
6. Bring in favorite box with cereal in it. Find Words: corn, rice, wheat. Taste and compare. Language, Representation.

Procedure: Large Group
1. Read *What's to Eat?* USDA Yearbook 1979. Language, Time.
2. Grow wheat or corn. Keep charts on growth. Time, Number.

3. Field trip to observe corn harvest. Language, Time.
4. 4-H Wheat Baking project. Spatial.
5. Resources: Nebraska Wheathearts or demonstration by a 4-H'er on baking bread. Language.
6. Make a Sandwich Story. Language.
7. Bake Honey Wheat Bears. Discuss number of eyes, ears, arms, legs. Number.
8. Celebration of learning: Each family brings in a bread from their heritage, with the recipe. Compile a cookbook with photo of child and family. Language, Social.

Due to limited space I have included plans for only two of the basic four food groups. The DAIRY unit emphasized how cattle change grasses that people can't eat into milk. It includes the Udderly Amazing Digestive System, the milk process, products, and the creation of a dairy farm and learning how to milk a cow.

The MEAT, EGG, NUT AND BEAN unit involves introducing students to animals that are produced for meat, recognizes nuts, seeds and dry beans as protein, explores the various types of cooking methods, includes a fishing trip and cumulates with an embryology project.

FREE TO BE (A) HEALTHIER ME! was written for Kindergarten, but can be adjusted for other grade levels as I have used it with third and fourth graders as well. Parents are an active participant in this unit, as they work side-by-side with their child during the mini workshops.

WORKSHOP OUTLINE

DAIRY: Social Activity

Use empty dairy product containers as puppets, cut hand hole in bottom of container. Parents and students divide into small groups of four to do an impromptu play advertising the quality and advantages of the product.

Cooking Activity

Rock 'n Roll Ice Cream.

MEAT, EGG, NUT, BEAN: Social Activity

Have available crayons, markers, and 12" x 18" sheets of paper. Divide into five groups for a pig, cattle, chicken, sheep and fish farm. Each group (farm) creates a book about their animal. Children can dictate their stories. Share book with other groups.

Cooking Activity

Egg salad sailboats, mini pizzas, or if weather permits cook a hotdog in a solar oven.

GRAINS AND CEREALS: Social Activity

Place one cup of the following in separate paper sacks (whole corn, whole wheat, oatmeal, rice, cheerios, cornflakes). Label sacks from 1-6. Students with parents as their partners try to identify grains by feeling.

Cooking Activity

Make breadsticks. Provide spaghetti sauce as a dip and enjoy.

FRUITS AND VEGETABLES: Social Activity

Tape picture of a fruit or vegetable on back of each adult and child who then must ask questions to determine what the food is. Once they guess, they stand in a designated fruit or vegetable basket.

Cooking Activity

Four Food Groups Salad, *Beginning Readers Cookbook*.

HEALTHFUL SNACKS: Children act out the story *Gregory, the Terrible Eater* by Mitchell Sharmat about a goat family that is concerned because their son eats fruits and vegetables, eggs and milk over "junk" food such as tires and shoes. Students and parents chart their favorite food (graph format) and share.

SNACK SMORGASBORD: Children and their parents bring a favorite snack to share.

FINALE: Hold a Health Fun and Fair. Involve the entire school. Students present the Four Food Groups at booths.

Thinking Critically About Controversial Issues

Grade/Course/Subject: 10th Grade Biology

Abstract

This project includes a variety of activities to be integrated into the classroom throughout the school year, exposing students to controversial issues in science and society. Each activity is meant to stand alone, yet all deal with the central theme. They offer students opportunities to become aware of the "newest" technological innovations, analyze and evaluate scientific research, clarify their feelings/opinions, develop critical thinking skills necessary for making well formed personal decisions, and develop communicative skills.

Introduction

For science teachers like myself who have taught for over twenty- five years, it is apparent that major changes are occurring in both textbook content and teaching methodology in biology. It is difficult to talk of biology today and not include terms like "science and society" and "bioethics". In our biology textbook, *Modern Biology*, "science and society" is named as one of the seven unifying themes of biology, and yet I found that term along with "bioethics" mentioned on only one page in the entire textbook. They are defined and briefly described in Chapter 1. I wanted my students exposed to the terms more than once. My goal was for students to become aware of controversial issues present in each of the other six unifying themes, to have opportunities to clarify their feelings and opinions toward those issues, and to understand the importance of becoming an informed person capable of making wise decisions on bioethical issues through the use of constructive controversy.

Project Description

The project includes activities that I developed to be integrated into my biology curriculum throughout the school year. Each activity is meant to stand alone, yet all deal with the central theme of controversial issues in science and society. Individual activities vary in time length from five minutes of class discussion to cooperative teamwork of several class periods.

Student Objectives

1. Develop an awareness of "newest" scientific technological innovations and their effects on society, especially in area of health/medicine.
2. Develop skills for analyzing and evaluating scientific research currently being done and its effects to society, especially in biogenetics.
3. Develop critical thinking skills necessary for making well formed personal decisions toward bioethical issues.
4. Develop communicative skills necessary in order to effectively reach a group consensus on controversial bioethical issues.
5. Develop skills in creatively expressing feelings or opinions toward bioethical issues through written or visual communication.

Lesson Activities

Activity 1: Students complete "Themes of Biology" as first assignment of school year. Class is divided into seven teams. Each team draws a theme name and using cooperative learning skills they write a summary of information and identify key vocabulary terms on theme from background research using textbook and classroom references; design 12" x 16"

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poster to visually summarize what the theme represents to the world of biology without using theme name; collect magazine/newspaper articles that relate to the theme and write a summary explaining why team believes articles illustrate theme; and prepare an oral presentation summarizing theme to class.

Oral presentations that include showing poster, describing theme including key terms, and explaining why team feels articles illustrate theme are completed in one class period. I have "Science and Society" team give their presentation last so students can begin to correlate bioethical questions mentioned during this theme to the other six. After oral presentations, I make a wall display with theme posters. Students are asked to view them and pick out "Science and Society" posters based on pictures and key terms.

Activity 2: "Food for Thought"

I include a "sponge" activity weekly during the class period called "food for thought." It is controversial biological "news" from newspapers. I read an article aloud and students have opportunities to respond. Students also identify its unifying theme of biology reinforcing that all themes have controversial issues.

Activity 3: "Wall Display of Controversial Issues". I hang a large piece of butcher paper on classroom wall and at top of paper write "Food for Thought". I hang "Science and Society" posters from activity 1 on this paper and each week I add newspaper clippings that I shared during classroom "sponge" activity. Students have opportunities to review each article on their own or to compare and contrast different issues on the display.

Activity 4: "Clip and File". Students are encouraged to read newspapers and magazines and clip biological articles for our classroom "file." One class period is spent approximately once a month with students silently reading articles from "file" and gathering into small groups to share articles with each other. During sharing time, group identifies which biological theme the article relates to and discusses controversial issues addressed in article with the class.

Activity 5: "Genetics: What Lies in the Future?" Since genetics is one of the last themes I teach, this is a second semester activity. Objective: Complete a cooperative team activity to learn more about current research in genetics and to creatively express team's feelings on science/society/technology ethical issues in genetics. Newspaper articles used last year were from 1990-91 *Omaha World Herald* and *Grand Island Independent* providing information on genetic researching. Under "What to Do" students are to:

1. Read newspaper articles "Lighted Trees Have Botanist Glowing" and "Researchers Hail Breakthrough in Genetic Engineering of Corn".
2. Discuss "Stop and Think" questions—Did you know that a lot of news attention lately has been devoted to animal rights groups? Many of these people believe that animals should not be used in research. What about plants? Do you believe researchers should be allowed to create "glowing" trees simply for us to purchase? Would society benefit from these "glowing" trees? Do you believe researchers should be allowed to do research on crop plants? Does the type of crop make a difference? Do you feel it is important to do research with corn if we have been successful already with crops such as soybeans and tomatoes? Record team responses.

3. Read newspaper articles "Scientists Find Gene Causing Cystic Fibrosis", "Gene Therapy Studied for Bypass Patients", and "Test Hunts Genetic Defects Before Pregnancy".
4. Discuss "Stop and Think" questions—Is it morally acceptable for our society to allow research on humans? Has society benefited? What are pros/cons of using humans for research? Some people think that instead of trying to cure genetic diseases society should try to prevent babies with diseases from being born. Discuss pros/cons of this thinking. Record team responses.
5. Express team's feelings toward genetic research by doing one of the following choices: create poem to be read; create song to be sung; create play to be acted out; or create a story to be read aloud to class.

Classes have a "share" day and teams communicate their project work to their classmates. I have had teams in past years that have gotten so involved in this type of creative assignment that they have "dressed the part" when they gave their presentations. Results of these "sharing" presentations have been excellent class discussions of bioethical issues.

Activity 6: "Bioethical Dilemmas in Our Society". Objective of this second semester activity is for students to become aware of ethical dilemmas in science/technology/society issues of human genetics and to reinforce that current genetic researching has not been done without controversy in our society. Under "What To Do" students work in a cooperative team setting to complete the following:

1. Read "The Perils of Treading on Heredity" from *Time* (3/20/89) discussing ethical dilemmas that resulted from technological researching with human DNA.
2. Stop and Think! What are your feelings toward issues and dilemmas discussed in article? Do you know feelings of your team members? Do you think every team member has the same opinion toward each dilemma as you do?
3. Read list of questions that I compiled and record your own feelings or personal opinions. Questions include:
   - Could genetic screening lead to more discrimination in our society against the "genetically unfit?"
   - Should society allow scientists to "cure" genetic diseases by inserting good genes into patient's cells before the person develops the disease?
   - Do prospective parents have the right to abort fetus after fetus until they get the "perfect" baby?
   - Should life and medical insurance companies be allowed to require that potential customers have their genes screened so people likely to develop fatal or disabling diseases could be charged higher premiums or be turned away?
   - Should people who have their genes screened be required to have their results stored in computer banks to be shared with companies and government agencies like credit ratings or an arrest record?
4. Discuss each question listed with your team members until a consensus is reached as to how the team feels and then...
5. Record team's responses.
6. Compare your personal answers to team's answers. How many of the dilemmas did you agree on? Was it easy for you and your team members to reach consensus on all twelve questions? Now...
7. Write a response that expresses either personal or team's feelings toward ethical issues in genetics.

Team members share their responses with other team members. Teams will then choose one response from their group to share orally with the class allowing students to compare and contrast feelings that have been expressed.

Bugs On A Stick

Grade: Middle/Junior High

Abstract

"Bugs On A Stick" is an open-ended lab designed to capture insects using colored plastic cups covered with a sticky substance and mounted on electric fence posts. Students formulate a hypothesis and design their own experiment. The lab is a practical and cost effective way to illustrate the scientific method and to enhance scientific skills such as observing, classifying, predicting, measuring, communicating, interpreting data, formulating a hypothesis, experimenting and controlling variables.

Project Description

Open-ended labs are an excellent way for students to test ideas on their own. They allow students to explore their curiosity and to be inventive. Because they are studying a hypothesis they have proposed, they tend to maintain an active interest in the problem for a longer period of time. Students realize that if experimentation does not support their hypothesis, they have learned something even if it was not what they expected to learn. Often this encourages the student to formulate another hypothesis and to test again. Along with scientific attitudes, open-ended labs foster scientific skills such as observing, interpreting data, formulating hypotheses, experimenting and controlling variables.

At Wolbach Public Schools we are incorporating an interdisciplinary approach to science instruction in the Middle School/Junior High group. The curriculum is hands-on and focuses on the process of science as well as the product of science. An example of this approach is illustrated by an open-ended lab called "Bugs on a Stick". This lab makes a nice closing activity for a unit on the scientific method as it allows students to determine and define a problem and investigate the problem on their own. The lab also makes a nice introductory lab for a unit on insects. The idea for the lab was obtained while attending the Biology Career Workshop at UNL during the summer of 1991. The manager of the greenhouses at UNL was using colored plastic cups covered with petroleum jelly as insect traps in the greenhouses. An advantage is that expensive and dangerous pesticides do not have to be used. The lab, Bugs on a Stick, focuses on this method of insect capture.

The objective of the lab is to find a method that will capture the most insects using plastic cups covered with a sticky substance. The cups are mounted on an electric fence post and placed in the ground outside (see photo). Working with their lab groups, students first formulate a hypothesis to test. This year students investigated four problems related to this method of insect control. One group investigated what effect the color of the cup has on the number of insects captured. Another group studied the effect of the location of the cup on the school campus. A third group varied the type of adhesive substance used on the cups. The last group changed the height of the cups on the fence posts.

After deciding on a hypothesis, the students then listed the needed materials. They also wrote a procedure for their experiment. At this point, they had their experiment checked by the teacher before proceeding further. The most common type of error noted was that students wanted to change two variables at once. For example, they wanted to use different color cups and change the sticky substance at the same time.

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After their experimental design was approved, the students obtained their plastic cups, mounted the cups on a fence post, applied a sticky substance to the cups, and set their fence posts outside. Be prepared for students to place the posts in unusual locations. One group got permission to set their posts in the Lutheran church's flower bed. A parent later commented that they thought the colored cups were left-over decorations from a wedding! The students then went to the elementary classrooms and explained their experiments to the younger students and asked that the cups not be disturbed.

The cups remained in place for three days, but any number of days more or less would work. The students counted the number of bugs on each cup and recorded the number and any other observations in the data section. They also drew a map describing the location of their cups in the data section.

In the results section, students discussed the variables in the lab. They listed what variables were controlled, what variable was manipulated and what variable responded. The raw data was analyzed by graphing. Finally, conclusions were written. Students discussed whether their hypothesis was supported or not, any changes they would make in their experiment and any sources of error in the experiment.

The experiment was popular among the students as evidenced by their enthusiasm and the favorable comments from parents. If the lab is being discussed at home, it is a pretty good indication that student interest is high. The lab made students acutely aware of the necessity of changing only one variable at a time during an experiment. We also discussed all the different variables presented in the problem. At the end of the lab, students were proposing other problems to investigate, such as what effect does air pressure have on the number of insects caught and what effect does cup shape have on the number of insects caught. It was neat to see that students were realizing that science not only answers questions, but often it raises even more questions than it answers. They also realized "ordinary" people and students can perform scientific experiments if they follow the proper procedures.

An extension of the lab was to next take the insects they captured and group or classify them. In the first step, all of the insects were placed in a large circle drawn on a sheet of brown paper. The students picked out characteristics that would separate their insects into smaller and smaller groups. After completing this activity the concepts of kingdom, phylum, class, order, family, genus and species were introduced. Next, students observed their insects under the microscope. A list of their observations was made. In the results section of their report students listed similarities among their insects. They then listed what characteristics made an insect an insect. Group discussion followed. As a closing activity, students wrote a story or a poem concerning insects.

"Bugs on a Stick" is a cost effective way to illustrate the scientific method. It reinforces scientific attitudes of curiosity, humility and open-mindedness. The skills of observing, classifying, predicting, measuring, communicating, interpreting data, formulating a hypothesis, experimenting and controlling variables are important aspects of this lab.

Education needs to make sense to students. When learning has meaning, students learn more quickly and retain the material longer. A quote from Roland Barth to the 1985 National Staff Development Council states, "The most powerful form of learning, the most sophisticated form of staff development, comes not from listening to the good words of others but from sharing what we know with others. Learning comes more from giving than receiving. By reflecting on what we do, by giving it coherence and by sharing and articulating our craft knowledge we make meaning, we learn."

Rube Goldberg Machines

Abstract

The Rube Goldberg Machine Project is an activity that culminates a Work and Simple Machines Unit. The project is open-ended and requires an application of science knowledge, while encouraging creativity and problem-solving skills.

After learning the basic principles of simple machines, students build a working model of a Rube Goldberg device that utilizes these machines. Each student must demonstrate their device and explain how each machine is used to accomplish some defined task.

Rationale

Good science teaching practices for middle level students include lots of hands-on, laboratory activities. Most of the lab activities that we have been presenting to our students are used to demonstrate science concepts that students can experience themselves. These labs have predetermined results, and leave little room for creativity. Good lab techniques involve careful measuring, following directions, and good record keeping. Deviations from these techniques lead to wrong conclusions. We reward the students for being good "cookbook" scientists, but don't encourage creative thinking or problem solving. We have been working together for several years to develop more open-ended projects that could challenge the students to put science knowledge into practice while encouraging creativity. The Rube Goldberg Machine project has proved to be a successful way to do this. The 1991-92 school year is the third year that we have presented this project to the students at Irving Junior High. The explanation that follows is the result of refinements made after each time the project has been run. We have shared this project with several friends teaching across Nebraska, and have heard positive responses from them. We hope that more teachers could benefit from this idea through the Cooper Foundation Awards program.

Project Description

Rube Goldberg was an early 20th Century cartoonist who became well known for his bizarre drawings of fantastic, complicated machines that performed simple tasks. "Rube Goldberg contraption" became such a well-known term that it has actually been added to the dictionary. Most students have a clear idea of what a Rube Goldberg machine is because they have seen examples such as: Tom and Jerry cartoons, the game of "Mousetrap", Eggo Waffles commercials, and various creations found in movies such as "Goonies". Many students have fantasized about creating a machine of their own. This project asks them to do just that.

The Rube Goldberg Machine project is the culminating activity for a unit on Work and Simple Machines. After learning about the six simple machines (lever, wheel and axle, pulley, screw, inclined plane, wedge), the students are introduced to the requirements of the project. Students must build a working Rube Goldberg Machine that has a minimum of three identifiable simple machines within it. After the experience of wading through a maze of string and inclined planes literally everywhere in the room, we learned to limit the space to the area of one lab table, including the area to the ceiling and floor directly above and below the table. We encouraged students to build their devices as a self-contained unit that can easily be transported to or from school. Students may work individually, or in groups of two or three. Since much of the project ends up being done outside of school, students are allowed to choose their own groups. Students are encouraged to make projects with scrap materials of their own, but we do end up using some ring stands, pulleys, tape, and steel balls from the classroom. Part

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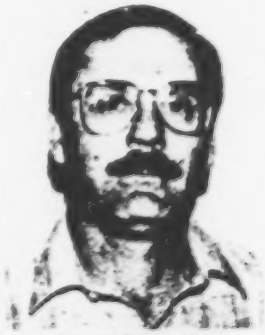

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of one class period is usually given to students to help them develop ideas and decide on materials they will need. Drawings always seem to emerge from these planning sessions, although they are not required. Students will need approximately two weeks lead time in order to adequately complete this project. Two class periods are given over totally to the students to give them time to work together with their groups. These work sessions are very noisy and fun, as students experiment with their ideas and do the hammering, sawing, and construction that goes into their final project. The day before the due date for presentation, groups are given a worksheet to draw out their final machine, allowing them a final check to be certain that they have met the requirements and to help them solidify the information they must use in their presentation to the class. We have found that two presentation days have worked best, giving the students ample time for the set-up and tear-down of their machines, for the video taping of their machines, and for the inevitable repeats that must be done often in order to get the machine to work properly. Half the groups are assigned to present each day. Students have enjoyed an additional day after the project to view video tapes of themselves and students from other class sessions presenting their machines.

Project Evaluation

We have assigned a point total of 40 for this project. Students can earn 10 points each for: presentation, workmanship, creativity, and meeting project requirements. We have learned to be careful about harsh grading for this project, since some students tend to get so excited that their projects go so far above the minimum requirements that other projects seem diminished in comparison. The emphasis is upon success for everyone, and all completed projects earn at least the equivalent of a "C", and most do much better. Projects are graded on a sheet prepared by each group (see accompanying materials).

Project Results

The original goal of this project was to get students to use creativity and problem solving skills to apply knowledge they had gained in the study of simple machines. We feel that this goal is more than adequately reached through this project, and that some additional benefits have occurred as well. The open-ended nature of this project has encouraged students of varying abilities to challenge themselves and go far beyond the minimum requirements. Surprisingly, some of the very best projects have come from students with learning disabilities, and some of the students who had the most difficulty with the assignment were those who have been identified as gifted. Students who have put forth effort have all experienced success. Walking among the students at work has given us a chance to listen to them wrestle with the proper placement of the fulcrum of a lever to do a particular task, or to listen to them shout with excitement when an idea really works. Students from past years have remarked about the fun they had with the project, and many remember it as their most significant experience in a science class. The positive feelings towards science generated by this project have led us to open our semester course with this unit in order to have the excitement carry over into other units.

Motivation Suggestions

When presenting the project for the first time to students, we have found two activities to be particularly motivating: presenting a machine of our own, and showing a videotape of previous projects done by students. Saving a good machine from a previous year can really help

spark interest in this project. Videotapes can be saved and shown from year to year. If teachers are interested, a videotape is being prepared. Copies can be made and shared with teachers interested in using this project.

Support Material

Rube Goldberg Machines (student information sheet)

Your task is to create a working model of a Rubes Goldberg machine to demonstrate to the class.

The due dates for this project will be (fill in your date).

Your project will be graded on the following criteria: meeting requirements, workmanship, creativity and presentation. The project is worth 40 points and is not an extra-credit project.

The following list of requirements must be followed:

1. You may work in groups of 1 to 3 persons. Be careful in group selection, as the larger the group, the greater my expectations will be for quality.
2. Your machine must have a minimum of 3 simple machines that can be identified in your presentation. You may use one type of machine more than once, but each time it is used it must be different. Each machine you identify must be part of the working mechanism of your machine.
3. Your project must not be larger than one lab table. You may use the space above the table, or below the table. If some assembly is required on your presentation day, be sure that it can be quickly put together and completely dismantled in only a few minutes.
4. There will be a total of two class periods in which you may work together with your group. The remainder of your construction time will have to be arranged outside of class. You are welcome to use the classroom any day after school, as long as you are willing to clean up completely afterwards.

Good luck and have fun!

Support Material

Rube Goldberg Machines (teacher grading sheet, filled in by students first).

Names:

Purpose of Machine:

Diagram of Machine: (label simple machines)
(leave adequate space for drawings)

GRADING (to be completed by teacher) 10 points each:

REQUIREMENTS MET _____

WORKMANSHIP _____

CREATIVITY _____

PRESENTATION _____

TOTAL

High Performance Learning: An Action Research Application

Abstract

An action research project conducted during the 1990-91 school year revealed significantly elevated radon levels in a two-county region of Central Nebraska. Partnerships in education were established with the University of Nebraska, Nebraska Department of Health, the Central IV Extension Office, and the Nebraska Legislature. Evaluation of the data determined an appropriate course of action that culminated in initiating the introduction of legislation (LB584) and testifying before the Nebraska Unicameral as proponents of the bill.

This project is linked with the Nebraska High Performance Learning Model goals.

Rationale and goals

Students respond favorably and learn intensely when cooperatively involved in real action research. Nebraska has been found to rank #3 among 34 tested states for ambient indoor radon. However, the numbers of tests conducted in our immediate region (Valley and Greeley Counties) was limited in scope, amounting to less than 1% of residences and other structures. Accordingly, the knowledge base required expansion. An interdisciplinary environmental action group of students was guided to determine this information and to take appropriate and timely action.

Goals were to:

1) identify the real;
2) evaluate the real in terms of the ideal; and,
3) act to achieve the ideal.

Project description and procedures

A partnership was established with the University of Nebraska-Lincoln Environmental Health Office. Their radiation safety officer provided 21 diffusion barrier charcoal absorption (DBCA) radon test canisters. Students were trained in the placement of the canisters. [This, perhaps, is the easiest science project I have ever conducted. Placement is simple. Canisters are opened, exposed to the air for several days, and closed and sealed. All that is taken is an air sample that has been collected by activated charcoal in the canisters. There is absolutely NOTHING hazardous about the use of a canister. They are not radioactive before sampling and only contain an air sample that is tested for radon.]

Training for my students was conducted at the environmental health office on the UNL multichannel analyzer that is dedicated to the testing for radon. This training enabled my students to self-test the canisters. Most of the results were above the EPA concern level (4 picocuries of radon per liter of air (4 pCi/L)).

To replicate the experiment, a partnership was established with the Nebraska Department of Health (NDH). The NDH transported its multichannel analyzer and two personnel to my school laboratory to conduct the replication tests. Data were to be supplied to my students. Again, results were typically above 4 pCi/L.

To expand the project, the Central IV Extension Office (CIV) was contacted and a partnership established. CIV arranged with Air Chek of Arden, NC. to provide radon test bags

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at minimal cost. Over 300 were placed during this expanded CIV-sponsored event. Results supplied to my students confirmed elevated levels (at or above 4 pCi/L) in 70% of tested locations in our two counties.

A course of action was decided upon that took into account a risk analysis of radon. The EPA considers it a significant cause of lung cancer deaths in the United States and especially hazardous to young people. My students presented information on radon, its risks, and the situation in our counties, to parents, our Board of Education, and to community groups. In addition, knowing that the segment of the population at greatest risk may be the young, an idea germinated that led to the writing of LB584 - a bill to require radon testing in schools and public buildings. LB584 was introduced by Senator Carson Rogers.

Testimony was presented to the Health and Human Services Committee of the Nebraska Unicameral. My students appeared before that committee as proponents of the bill.

LB584 was not killed. It was seen as significant by members of the committee but was not advanced to the floor due to funding uncertainty. Regrouping, my students revised their initial ideas and are submitting proposed amendments to the bill in their attempt to advance LB584.

This year, we will be expanding the project through NEBLINK and/or SCINET. Here, we will need to coordinate the work of a larger group and to develop an analysis of the data as they are developed. From this, we will be able to determine with some certainty the extent of the radon risk to Nebraska youth. This expanded project will increase in-house cooperative activity since the very reputation of the school will be at stake. Students will see themselves as an academic team.

Summary and Conclusions

This project is easily replicable in other schools. Radon DBCA's are readily available and easily placed by a trained science class. Mailing the DBCA to the test laboratory makes reliable results achievable by any class, at any level. [In fact, my students were contacted by a 6th grader in North Bend who wanted to do a radon project for her science fair. We supported her and her project was well received.]

The project is exemplary because:

1) It examines a real environmental issue in which empowered students are actively expanding the knowledge base. Students see first hand the process of knowledge acquisition.

2) Students work cooperatively and intensely in several partnerships with higher education, business, and government. Students see first hand the process of establishing positive partnerships.

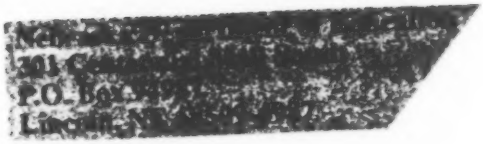
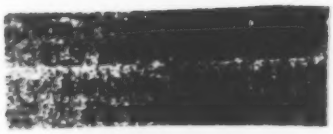
3) Students are guided to real decision making in the application of the expanded knowledge base. It was not easy to act on the new knowledge base. Obvious moral dilemmas caused real concern, not simulated concern. Students were reluctant but felt morally bound to act appropriately and maturely. Their actions took into account possible negative reactions and anticipated alternative courses.

4) Student actions were positive and assertive. Leadership was developed at the highest levels. They took their case to the Nebraska Unicameral and were well received by the Committee.

5) Rejection of their idea was experienced but students did not stop. Revision, rewrite, and resubmitting are the outcomes.

6) Students have ownership in their work. That ownership leads to a real enhancement in student self-esteem.

KEY WORDS: ACTION RESEARCH, PARTNERSHIPS IN EDUCATION, COOPERATIVE LEARNING, ENHANCEMENT OF SELF-ESTEEM, REPLICABLE, EXEMPLARY, DECISION MAKING, MORAL DILEMMA, OWNERSHIP, NEBLINK/SCINET, NEBRASKA HIGH PERFORMANCE LEARNING MODEL.

Supporting Documents

1) A videotape is available which includes news coverage for the project. Viewing time is approximately 10 minutes. I will assist as needed in copying the tape for interested teachers, if each provides a standard VHS tape.